M Technology: Very Much a Part of Brazilian Commerce

by Paulo Roberto Baratta

Introduction

MUMPS' Brazilian story began in 1974, when the software house of Biodata Informática e Tecnologia was founded. Its first project was to automate a medical laboratory.

Meditech wrote the laboratory's systems in MIIS to run on Digital Equipment Corporation's PDP-15, which had a capacity of thirty-two terminals. Due to the systems' low-volume use on the few terminals in the lab, data online time-sharing processing through remote terminals became an added service. Thus began custom design in M in Brazil.

M's versatility quickly attracted attention of Brazilian hardware manufacturers needing a system with high-speed interactive processing. Until then, mainframes were used most commonly, and they were expensive in all aspects. But there was no alternative, since the informatics-protection law restricted the importation of minicomputers and later that of microcomputers. Although the reason behind the law was to spur Brazilian production of such hardware, the protectionist law banned the importation not only of hardware, but also of software. In the case of computer programs, the user could not acquire a foreign product if a similar one was produced in Brazil.

In 1978, an agreement was reached with Biodata, Meditech, and Computadores Brasileiros S/A (COBRA) with the objective of generating what would become the first Brazilian MUMPS dialect—the MUMPS/COBRA—in a stand-alone version. This agreement made Brazil the only country in the world besides the United States to develop MUMPS. Other countries without trade protection laws preferred to import the language we now refer to as M.

COBRA was created in July 1974 to manufacture the Argos 700 that was patented by the British company Ferranti, which furnished computers to the Brazilian navy. In addition, other objectives were to elaborate market studies, support the navy, and train Brazilian technicians through a technical-assistance agreement with Ferranti (a minor shareholder in COBRA). Five years later, COBRA released its 400M (M for MUMPS), thereby impeding foreign companies' export of M to Brazil (because of the software protection law).

Meanwhile, MUMPS evolved elsewhere in the world, but the Brazilian versions did not keep pace. The MUMPS/COBRA based on MIIS did not follow the ANSI standard. Other Brazilian hardware manufacturers started up and signed technology transference agreements with foreign companies. Edisa signed an agreement with Fujitsu, Sid with Logabax, and Labo with Nixdorf.

Biodata expanded an M dialect for Sisco, Edisa, and Digirede machines. Meanwhile, Medidata developed a dialect for Labo machines. Both Biodata's and Medidata's dialects were stand-alone. Hundreds of minicomputers running stand-alone on M were then sold in Brazil.

The software "similarity" trade-protection law (which prohibited the importation of software with similar versions produced in Brazil) caused many difficulties for Brazilian industry: contraband software and con artists trading it were common. This law was informally revoked in the 1980s and was officially abolished by the Brazilian Congress in 1990, thus creating, at least, an open marketplace.

The M Market Today

American M implementors began cooperative working arrangements with Brazilian companies in the early 1990s. DataTree associated with SeC, InterSystems with Medidata, and Micronetics joined CompScientia. During the same period, IBM commercialized MUMPS/VM.

Among the earlier Brazilian companies that worked in the M market using national (parochial) dialects, only three remain: Pensamento, with versions for PC/DOS and Bull mainframes; Ipsum, which initially produced versions for the Delta-Motorola 680xx in stand-alone versions and more recently for UNIX; and Extensão, which furnishes PC/DOS and UNIX environments.

A lack of market surveys like the one made by the Gartner Group for the M Technology Association-North America, makes it difficult to obtain a picture of the M market share in Brazil. Based on our experience, however, we can estimate how each vendor is positioned.

The PC/DOS segment is dominated mostly by SeC (DataTree) and Extensão; CompScientia (Micronetics) registers

an approximate 20 percent participation. The UNIX segment has different leaders per type of architecture. In the Intel 386/486, Medidata (InterSystems) predominates, although CompScientia and Extensão together outnumber in the Motorola 680xx segment. CompScientia (Micronetics) and InterSystems share the RISC market. Ipsum, the last to start working in this area, has a small part of the market.

In the mainframe market, there are about fifty MUMPS/VM licensees, mostly installed in state-owned companies and multinational firms. As IBM's business partner, CompScientia also supports users in this segment on IBM mainframes.

M stand-alone versions predominate in the Brazilian market. It is clear, however, that its users are acquiring more modern technology, both hardware and software, generating approximately three thousand machine replacements over the course of time. Migration is inevitable in most cases, and the biggest challenge is to keep these users as M users who do not switch to other environments.

Among the main reasons for users to stay with M are investment protection for applications and a predilection for M as a cultural tradition among informatics staffs and end users. All of us "MUMPERS"("MUMPEIROS"—nickname given to all those who deal with M in Brazil) have the conviction that M is a powerful language, conversational and easy to learn, and that it has kept its promise (through MDC) of being up-to-date with what is most refined in informatics.

Some dissatisfaction stems from the days of the old stand-alone implementations that were problematic. For example, some implementations were poorly finished (pointer changes and losses of blocks were common). These problems tarnished the M image in Brazil to a certain extent. Now, however, modern technological solutions are being applied to these installations, and the first choice in hardware has been the RISC systems RS/6000 and HP/9000.

Today the Brazilian market has no more room for technological inefficiencies. Whatever is released in the United States arrives in Brazil the following month. We "MUMPERS" believe that it is merely a matter of time for M's image to become more realistic and therefore more positive, erasing all misunderstandings from earlier times.

Who Is Using M in Brazil?

M in Brazil has spread throughout all business segments, but contrary to a worldwide trend, its presence in the medical area is quite restricted. This is most probably due to Brazil's poor public health services, which lack not only MUMPS, but any automation. In public hospitals there is a lack of basic materials and computers are seen as unnecessary sophistication.

Brazil's biggest M Technology users are in the industrial, government, oil, and communication sectors. Following are some examples:

Government

The number one M Technology user in Brazil is the government. Among its companies the following have the biggest MUMPS installations.

SERPRO is the biggest data-processing service bureau. It uses M to process internal corporate systems and to render data-processing services to the government. It uses most existing technologies, from the biggest mainframes down to microcomputers, and is one of IBM's main clients. Its MUMPS runs on IBM mainframes networked all over Brazil.

The Federal Revenue Service uses mostly DSM in Digital Equipment Corporation's equipment line, with centralized processing plans for all its regional offices in the country. It is analyzing all MUMPS, from PC/DOS to RISC, to determine compatibility with DSM for future implementations.

Most federal courts are automated in M, thanks to the software house MPS, responsible for its dissemination. MPS developed unique applications for the needs of this sector and there are more than sixty machines running these systems.

Other government organizations also use MUMPS. OSM is most active in this market, primarily because of its personnel-management systems. The complexity and changeability of the Brazilian laws, especially those covering public workers, make MUMPS the most attractive application because of the fast changes demanded by rapidly evolving legislation.

Oil Companies

The three main companies in Brazil—Petrobrás, Shell, and Esso—are M Technology users. Petrobras, for instance, uses MUMPS/VM to process some of its most critical applications, such as its fuel-distribution control and invoicing. Petrobras Distribuidora, the top oil distributor in Brazil, is deactivating fourteen Digirede/Ipsum machines running stand-alone M, and is migrating to an IBM 4381 mainframe with MUMPS/VM. Unlike the global tendency to decentralize, this Brazilian company has chosen a centralization process. Later in this same project, migration to an ESA-9000 (with MUMPS/VM) will be undertaken, thus substituting the 4381 that shadows the 3090. The fifty-eight computers that will be deactivated during the second phase were built by COBRA.

The project to reform Petrobras Distribuidora's hardware and software technical architecture will alter its information-system model significantly. The new model will structure all corporate processing in large equipment connected to the company's distribution centers through medium-sized equipment, concentrating on the company's following main systems: accounts payable, sales, clients, prices, orders, accounts receivable, storage, purchases, transportation insurance, tank trucks' schedules, bank promissory notes, and financial bulletins.

Communication

Brazil's premier television network, Rede Globo de Televisão, uses M for one of its most important systems, the selective recovery of journalistic images and texts. Through key words and boolean operations (and, or, exclusive or, etc.), pertinent information regarding a specific event is available to journalists. It is now running on MUMPS/VM but will migrate soon to a RISC platform.

Conclusion

MUG-Brazil's biggest challenge is to make all the transformations that M recently has undergone readily apparent to the informatics community. Keeping in step with the work developed by other MUMPS Users' Groups in the world, and particularly by the M Technology Association-North America, it is necessary to change MUMPS' image in Brazil. This must be done by promoting its resources and its adherence to open architectures, its scalability, networks, distributed computing, portability, top performance, high availability, graphical user interfaces, and close involvement with evolution in ANSI and ISO standards.

Promoting M Technology is the key strategy of MUG-Brazil's marketing council, which consists of M vendors in Brazil (CompScientia, Ipsum, Extensão, SeC, and InterSystems' distributors). This council's mission is to equate M Technology to high technology in the public's mind.

M implementors in Brazil have the difficult task of keeping up-to-date with the evolution of the language, implementing new standards (ANSI/93), graphical user interfaces, and OLTP (online text processing), to name a few challenges. This is a tough task due to the great number of hardware platforms and to the rapidity with which M is evolving. Is it worthwhile to the implementors? We think so. ❖

Paulo Roberto Baratta is MUG-Brazil's President and CompScientia Informática e Tecnologia's Executive Director. CompScientia is located at Rua Barao do Flamengo, 32 - 6°andar, CEP 22220-080 -Rio de Janeiro - RJ - Brasil. Telephone 055-021-205-4423.