

THE INFORMATION INDUSTRY SCENARIO IN YEAR 2000,
TRENDS AND CHANGE OF FOCUS, FOR THE IT PROFESSIONAL AND FOR
THE END-USER

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"Le fin du siecle" of the last centuries, have had elements of chaos, turmoil and change.

As far as the IT industry is concerned, this will be the case as we move into the next century, hopefully not backing in with "a bag full of worms".

The overall purpose of IT applications, is to improve infrastructure, leading to competitive advantages and better decision support in industry.

For government organisations likewise. IT must add value to the performance of the day to day activities, and to the longer term strategic development.

This close link implies that there must be consistency between the Business Architecture and the IT Architecture, as described by the "John Henderson Strategic Alignment Model".

When the Master Business Platform is changing, the Business Architecture must be adjusted. This must have an impact on the IT Architecture.

With the IT architectural crisis many companies do have to-day, and at the same time, difficulties in meeting business requirements, there is a need for fundamental change in the IT Platform.

We are facing a paradigm shift.

The Business Platform is changing. The IT Platform is changing. The effect is that the rate of change, is changing. We will be entering a period of turmoil.

We are entering a "Fin de siecle" where expectations to business in terms of profitability, employment, mode of operations and employee flexibility will be changing.

Peter Drucker estimates that the number of management layers will be halved, and number of middle management will be reduced with two thirds over the next 20 years. Management structure and decision support systems must be adjusted.

IBM and the major players in the IT industry, including the Open Systems Foundation and standardisation bodies, have announced shift in platforms.

Because of company re-engineering, restructuring and competitive repositioning, a non-linear new level of IT functionality will be required.

Gartner Group Inc. suggests that the driving forces behind the new functionality, will be:

- * Ubiquity: Systems must run accross more than 90 % of all functions, locations and people.
- * Fertile environement: Provision of architecture and tools to lower dramatically the full life-cycle cost of functions.
- * Value-added networks: Administrative and communications functions must be a natural part of the network.
- * On-Line-Transaction-Processing: To run in real time, there is a need to run massive transaction loads.
- * Cross functional information management: Availability of data independent of physical location.
- * Data granularity: Access to relevant data at different levels in the organisation.
- * Consistency: Automatic completion and confirmation of all data transactions.

Gartner Group derives the following relationship and paradigme shift from the 1970-1987 Platform, to the new Master Platform for year 2000:

1970-1987 Platform

System 370
 Hierarchial
 User managed resource
 System performance
 Mainframe at core
 MIPS/\$ constrained
 Distributed processing
 Database management
 Wait on software
 IS gated
 Data only
 Project

New Master Platform

Software architectures
 Peer to peer
 System managed resource
 User performance
 Workstation at core
 Functionality constrained
 Cooperative processing
 Repository management
 Wait on software, middleware
 Buyer gates
 Multi media
 Process, prototype

The 1990-ies will be a time of deep and profound change in information systems.

The movement of the PC-age, and the consquential substantial use of workstations, will continue.

The price performance gap, measured as \$/MIPS, was in 1980 15:1 between mainframe and PC. To day it is 100:1, and in year 2000, it should be 700:1. This will be an important factor as a driver for new applications. It will also impact who will be in power to make decisions, the IT coordinator or the enduser.

Application development and decision making as to solutions and selection of hardware, middleware and frontware will to an increasing degree be taken by the end-user.

The most important driver for new applications, will not be the "Function per dollar" syndrome, but the low entry price per workstation per se. This includes software and training.

Both the technological and the organisational forces, will lead to a broader use of IT. The present architectural chaos, in terms of lack of compatibility between the PC, the PC/LAN and the mainframe network, must be solved.

Connectivity is a key issue, that must be solved first, to make a move towards a new architectural framework, client server.

Client Server technology will be the solution. Cooperative processing, where the mainframe is the node in the network, and where departmental processors can off-load the PCs for major tasks. All hooked together through a telecommunication network, and with a systems managed storage concept. This is what we are looking for. Access to data and to applications, including Office Systems, will be via a client server structure.

Unfortunately, we will have to wait till the turn of the century, before it is available. However, we will have to start planning our infrastructure such that we are ready.

Along the road, open systems will emerge. It is estimated that by 1995, about 50 % of all systems, will be open systems (UNIX, PS/2 and DOS).

As a parenthesis, the really important decision is not whether to decide for UNIX or not. The important decisions are selection of middleware (what is between the operating system and the applications), and the API (the Application Program Interface).

The future compatibility issues will be, application exchange and data exchange through telecommunication interfaces. These, are the issues to focus on, as we wander through the "fin du siecle" trauma.

Hardware products will be more commodity like, as they can be used on open platforms. Margins will be reduced, and there is going on a restructuring of the industry.

IBMs market share will probably continue to decline through 1995, and then regain some momentum. Fujitsu/ICL will probably strengthen their position as a strong number two in the Information technology industry.

For the IT department this change towards commodity products, open standards, end-user decision making and fundamental change in the Business Platform, will imply substantial challenges.

The role of the IS function will change.

The formal IS budget in the US, according to Gartner Group Inc. is 2.4% of revenue in 1990, and will grow to 2.7% in 1995.

End-user IT spending is estimated to 2.4% in 1990, split 50/50 between budget and unseen expenses. This item is assumed to increase to 5.0% in 1995, bringing the total number to 7.7%.

This total amount must be managed, and the rules must be set by the IS manager. Following the rule of "Least resistance", will lead to crisis and complete loss of control.

IT resources must be managed. An Enterprise Architecture must be established and adhered to. Standards must be established, and partnerships between IT professionals and end-users formed.

Success requires joint efforts and good teamwork. IS professionals must take their own medicine. CASE tools and modern project management will ensure a smooth development and preparation for the transition that we will have to go through. The end-user and the IT professional must work closely together, in this "fin du siecle" trauma we have ahead of us.