
PC를 이용한 계측과 자동화

정경훈과장

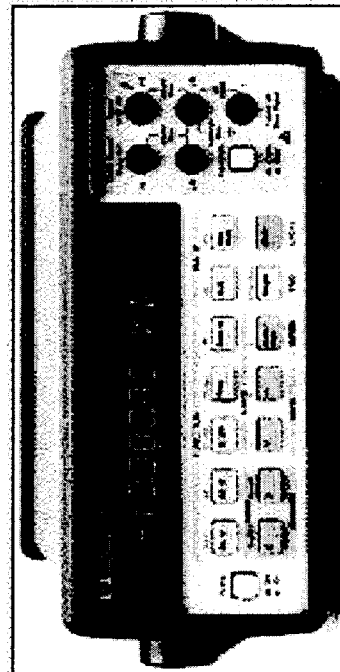
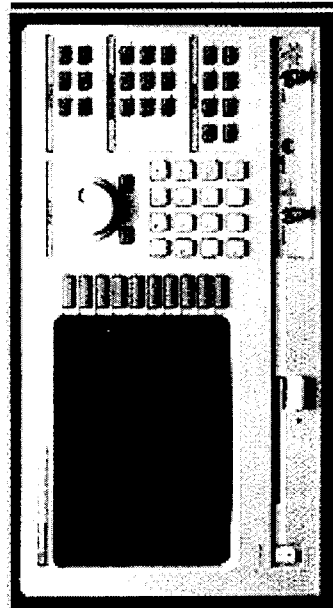
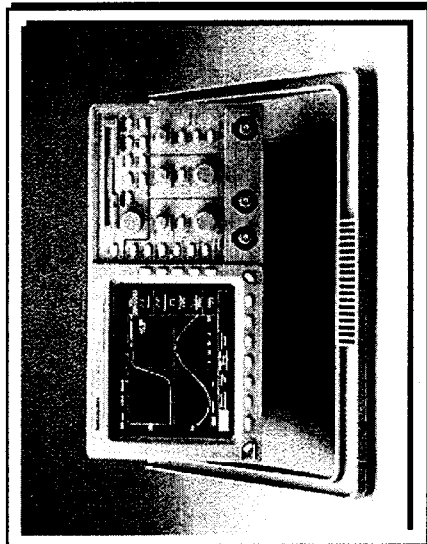
정 경 훈 과장
(National Instrument)



National Instruments

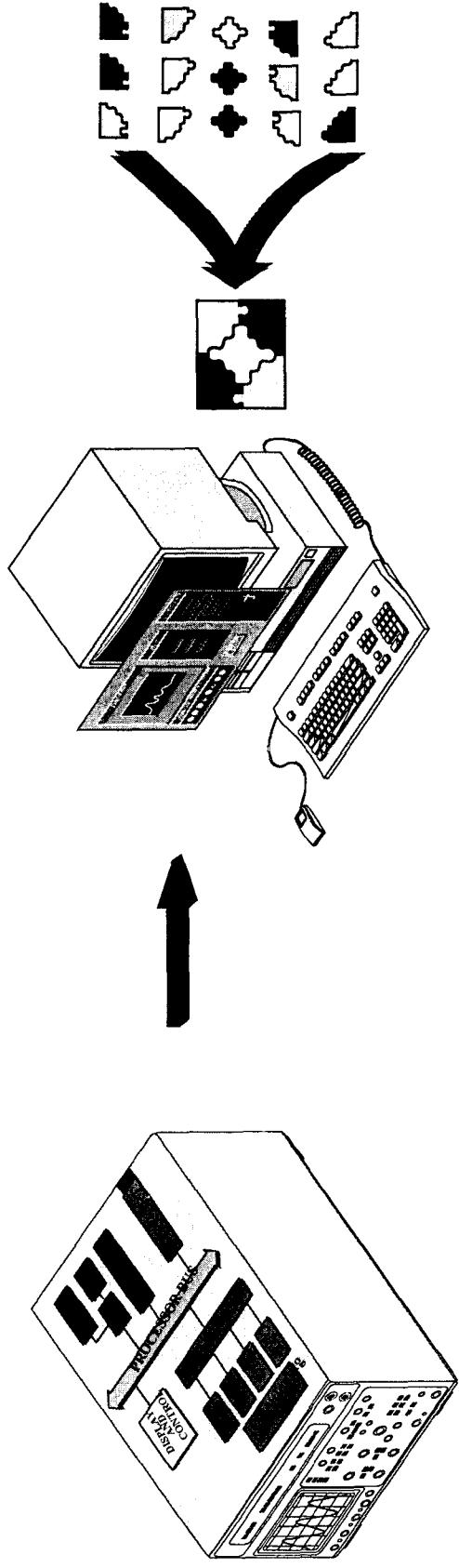
The Measurement and Automation Company

In the Past...



**NATIONAL
INSTRUMENTS**

Instrument Paradigm Shift



Traditional Instrument
“Vendor Defined”

Virtual Instrument
“User Defined”

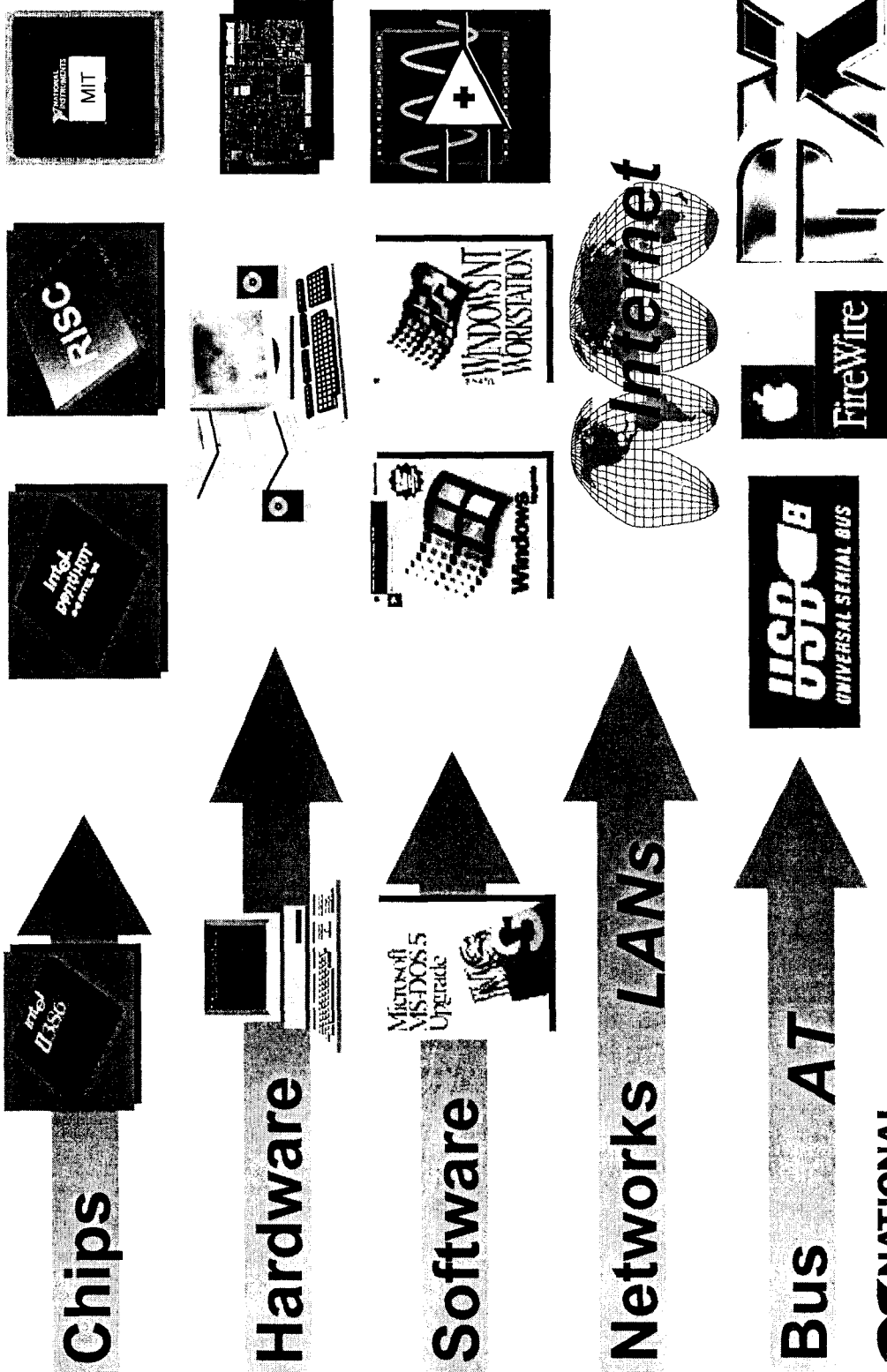


Automation.

Computerized systems, and industry-
standard technology implementation.

Local
Measurement
Industrial Automation

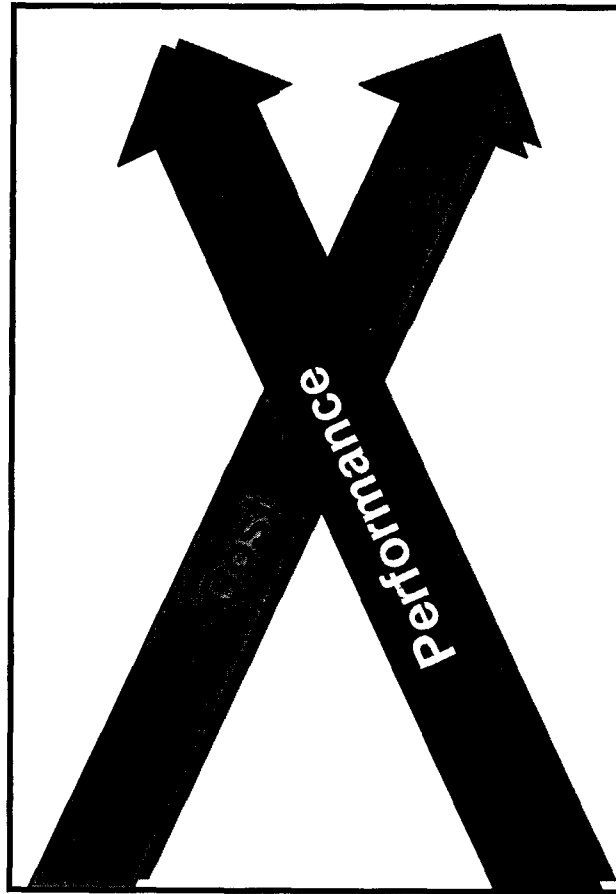
Advances in Computer Technology



NATIONAL INSTRUMENTS

Benefits of User-Defined Virtual Instrumentation

- User defined
 - Low cost
 - Flexible
 - Reusable
 - Scalable
- Leverage technology!*



Time



Industry Applications

Test & Measurement

Telecom

- AT&T, Alcatel, Ericsson

Computers

- IBM, Apple, Dell

Semiconductors

- Motorola, TI, Thomson-CSF

Automotive

- Ford, Chrysler, Nissan, Toyota

Electronics

- Sony, Siemens

Industrial Automation

Petrochemical

- Shell, Mobil Research

Textiles

- Instron, Dupont, Eli Lilly, Albany International

Manufacturing

- Ericsson, Duracell

Food Processing

- Sara Lee, Ben & Jerry's, Shiner

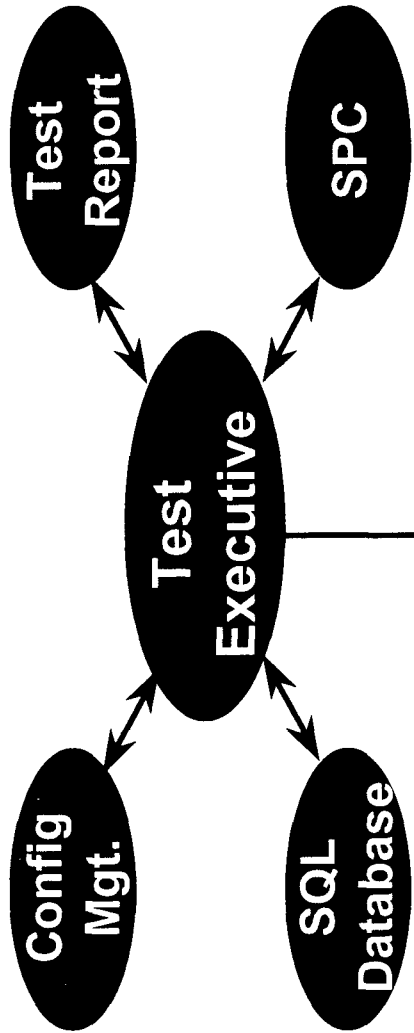
Pharmaceutical

- Johnson & Johnson, Proctor & Gamble



System Architecture for

Test and Measurement



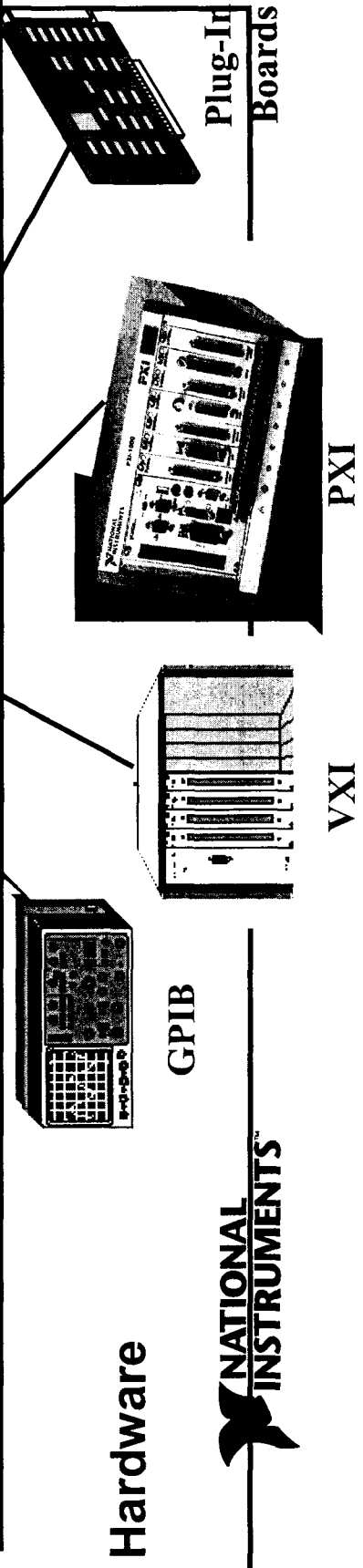
Test Management Software

Test Programs

Test Development Tools
(LabVIEW, LabWindows/CVI)
(ComponentWorks)

Instrument or I/O Libraries

Driver Software



Hardware

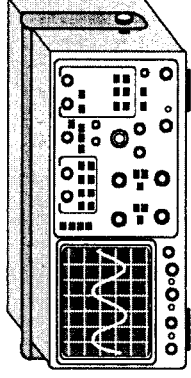


Simplify Your Instrument I/O with Instrument Drivers

Test Program

instrument addressing
command string building
range checking

response string parsing
data scaling
storage in memory

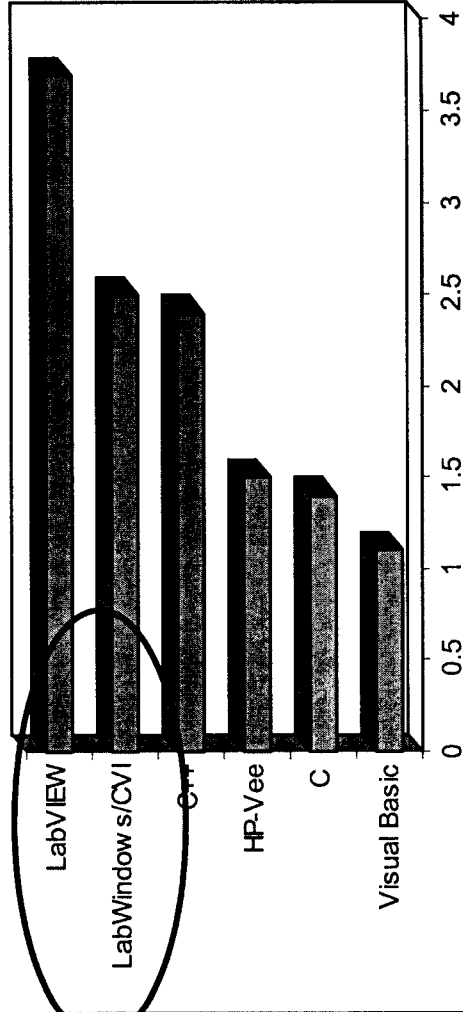
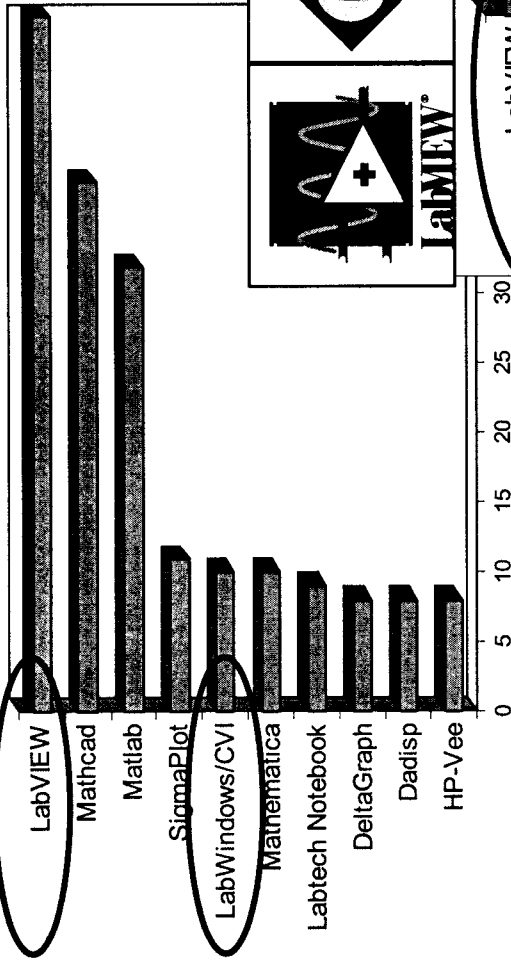


 NATIONAL
INSTRUMENTS™

Developing Test Programs

Software Purchases

- PEIN, 1998

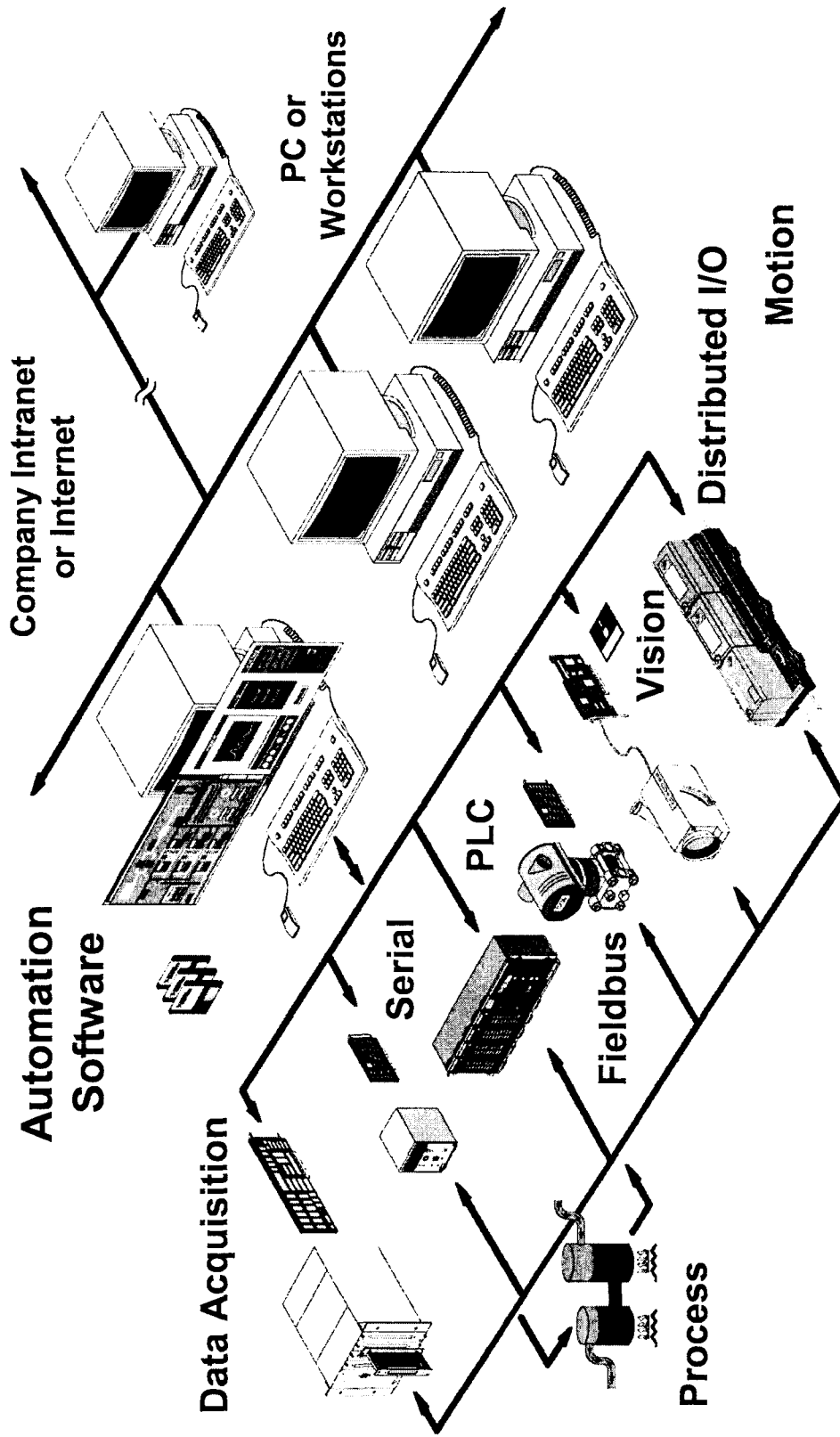


Software Preference for VXI Test

- U.S. T&M World 1997

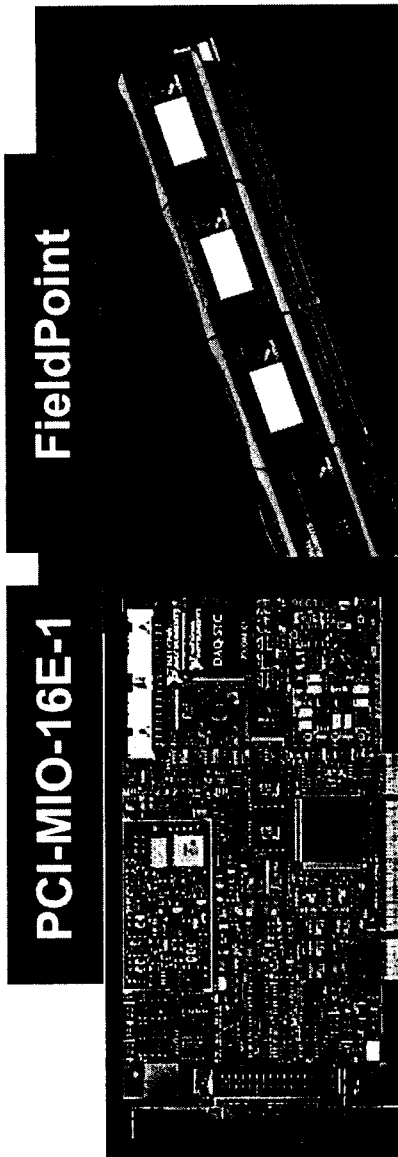


System Architecture for Industrial Automation



Some I/O Methods for Industrial Automation

- Traditional I/O
 - PLC
 - Serial devices
 - CAN/Fieldbus
- Solutions for:
 - High-speed data acquisition
 - PC-based image acquisition
 - Distributed I/O
 - PC-based motion

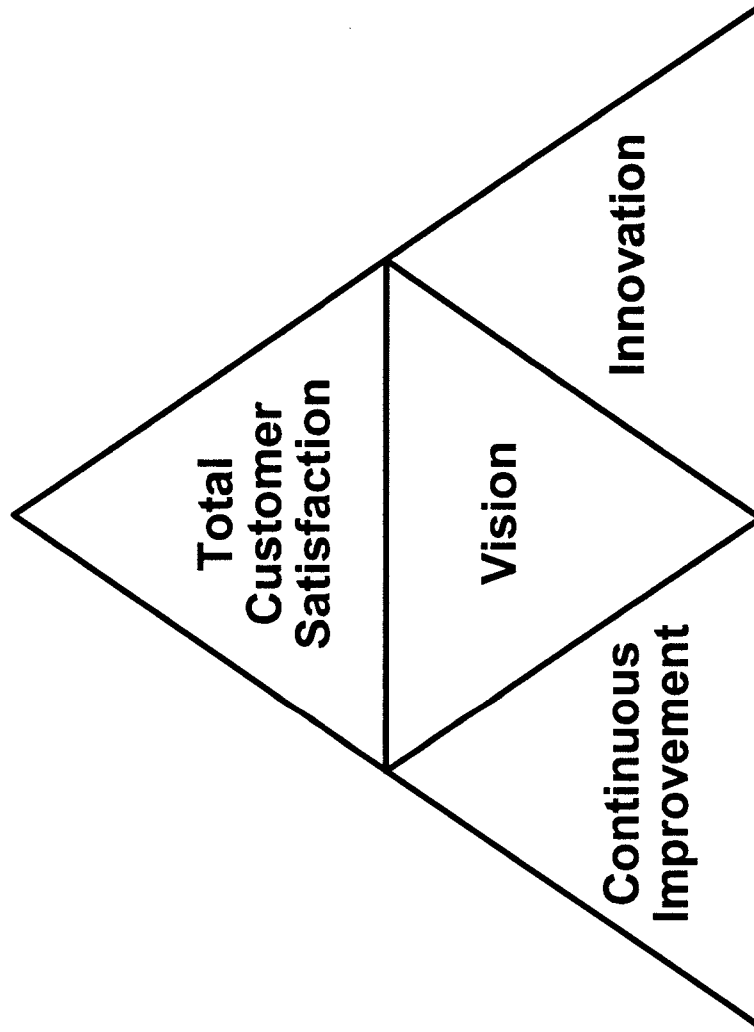


OLE for Process Control



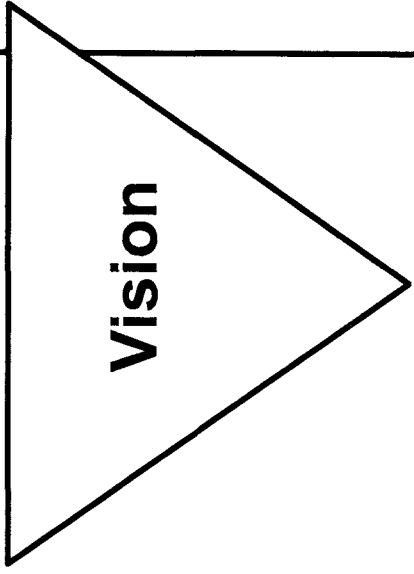
 NATIONAL
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Total Quality Management

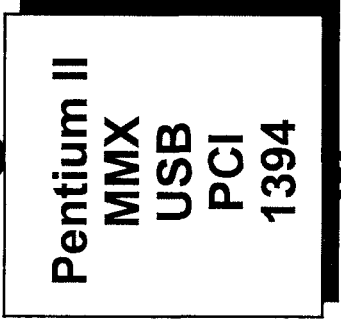


Empowering Scientists

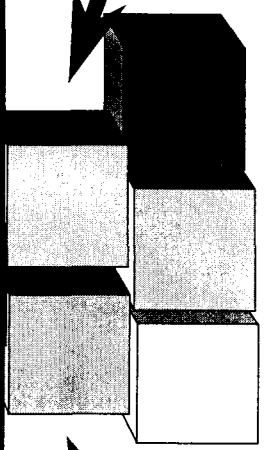
and Engineers



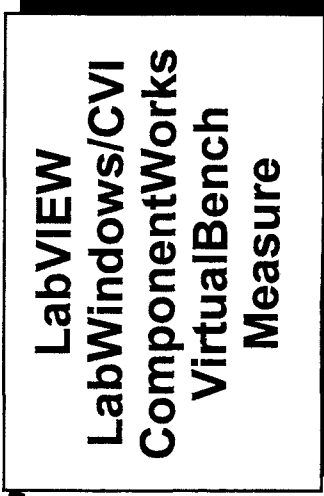
Computer
Technologies



Application-Specific Solutions



Software



Hardware

