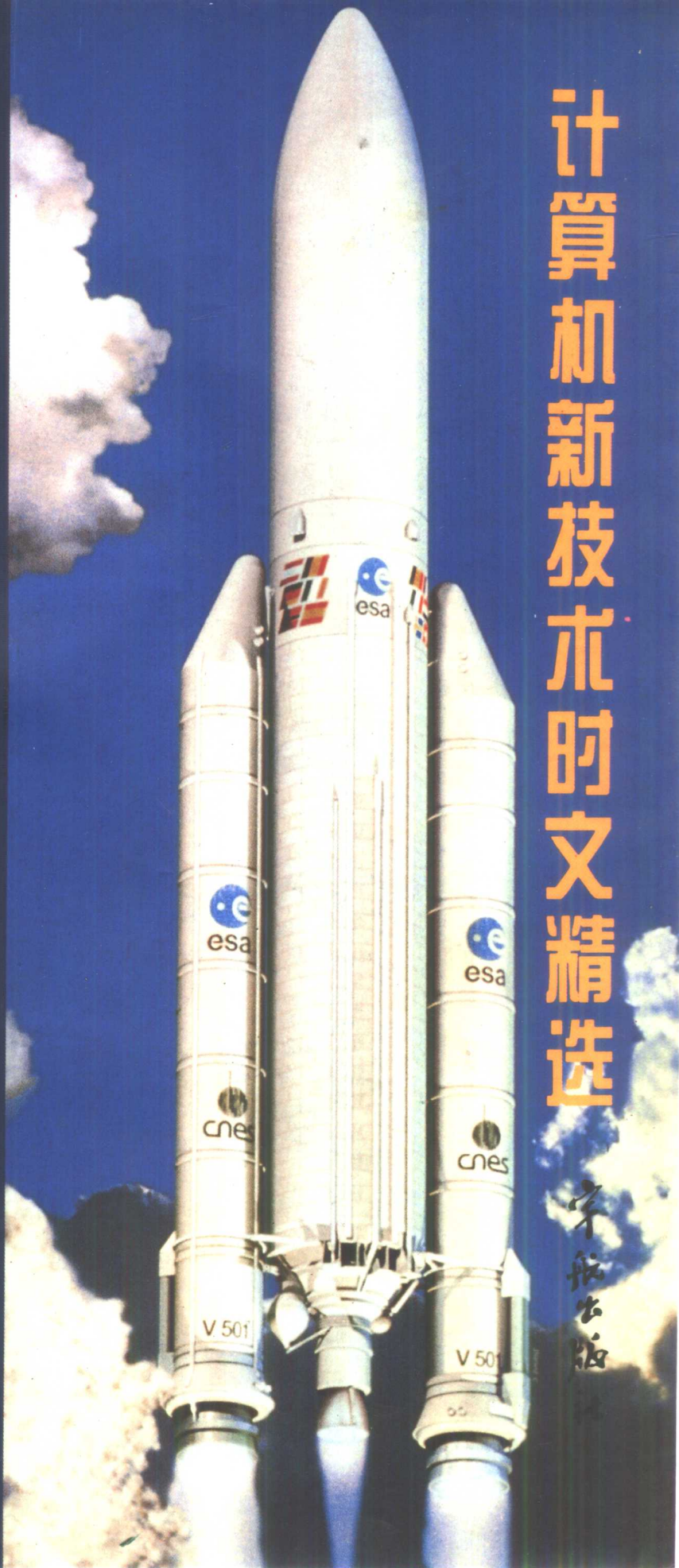


英汉对照

计算机世界 易水编译
CHINA COMPUTERWORLD



计算机新技术文精选

宇航出版社

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内 容 简 介

本书包括了一百多篇介绍计算机新技术的英文短文,为使读者便于了解计算机专业新技术和学习计算机专业的英文词汇、语句等,每篇原文后都附了汉语译文。

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前 言

人类社会正在迈向 21 世纪。懂外语(尤其是世界通用的英语)和会使用计算机是跨世纪人才的基本技能,已为越来越多的有志青年所认识。正是出于这样的考虑,我们以中英文对照的形式编撰此书,奉献给大家在学习英语的同时,了解计算机的最新科技。

50 年前诞生的第一台电子计算机是本世纪最伟大的发明之一。正如蒸汽机的问世引发了第一次工业革命,大大解放了人类的手与脚;而计算机的诞生延伸了人类大脑的思维,对人类社会进步与发展产生了巨大的影响。以计算机为核心的信息革命正在向我们袭来,它将深刻地改变我们的工作方式和生活方式。

50 年来,计算机一直以科技史上前所未有的速度飞快地发展着,每 18 个月计算机的性能就要翻一番。新技术、新方法、新产品层出不穷。知识老化在计算机领域中异常突出。如何更新知识已严峻地摆在每位从事计算机的研究、开发、应用和服务人士的面前。

本书收集了 130 多篇文章,从各个方面介绍了计算机的最新发展,有助于读者了解计算机世界日新月异的变化,更新知识。从网络计算、分布处理、国际联网(Internet)到面向对象编程、数据仓库、神经网络、模糊逻辑等计算机界关心的问题,本书都有所涉及。通过阅读这些文章,读者对计算机世界中的最新发展可有一概略的了解。同时,通过英汉对照,有助于读者英语阅读能力和翻译水平的提高。

本书的文章曾在《计算机世界》报上刊出过,在翻译和编辑过程中得到了报社编辑部的鼎力相助,这里向他们表示衷心的感谢。在由出版社出版前,不少地方又有所修改,并在页注地方标注了在一般字典中难以查到的单词及在计算机世界中的特殊用法。

编者

1996 年 7 月 1 日

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Future Computer Trends

By the dawn of the next millennium, PCs will disappear from the desktop because they will become the desktop, a Japan-based research group studying future computer trends predicted.

The three-year study is being conducted by the Committee on Computer Systems in the Year 2001, a group of 18 researchers from major Japanese corporations, computer companies and universities.

By far the most intriguing prediction by the group is that PCs will vanish from the desktop in corporate offices and become an integrated part of the workspace.

The components of a PC, rather than being packaged in a box, will be built into the desk, and a large plasma or electroluminescent flatpanel display^① hanging on a partition wall will act as both a monitor and video phone display.

A high-resolution, touch-sensitive LCD built into desktop will allow pen based pointing and data input. When faster performance is required, users will buy new computer modules to plug into their desks.

In the home, meanwhile, computers will become as ubiquitous as TVs and will allow users to shop, send and receive electronic mail, view incoming faxes and make visual telephone calls all from an easy chair, with input carried out using a handheld remote terminal^② or a separate portable computer.

Computer interfaces will be far friendlier than mouse-driven graphical user interfaces of today, according to the group.

The group also predicted the following will occur:

- Japanese companies—in order to gain the flexibility and cost-effectiveness necessary to remain competitive in global markets—will give up their long—entrenched, proprietary computer systems and replace them with networked, Unix applications.
- Most corporate applications will be transplanted from mainframes to workstations.
- Downsizing from mainframes to distributed client/server systems will all but eliminate minicomputers and midsize mainframes from corporate computer rooms, and large mainframes will be relegated to the sole task of managing huge Unix databases.
- Workers will use high-performance handheld computers with wireless communications functions.
- Reduced instruction set computer microprocessors will finally obliterate the ever thinning

① a large plasma or electroluminescent flatpanel display 大屏幕等离子体或电发光平板显示器

② a handheld remote terminal 一个手持的远程终端

gap between workstations and PCs.

- Computers will use “human interfaces” based on multimedia.
- There will be widespread use of broadband^① Integrated Services Digital Network communication for high-speed transmission of multimedia data.
- Chip design and manufacturing techniques will continue to evolve to yield 256M-byte memory chips and experimental 1G-byte dynamic random-access memory.

Similar advances in nonvolatile flash memory will lead to the replacement of magnetic hard disks with electronic “silicon disks,” that enable significant size and weight reductions in portable computers.

未来的计算机发展趋势

到第二个千年的曙光出现之时，PC 机将从办公桌上消失，因为它们本身将成为办公桌，这是一个以日本为基地的研究未来计算机趋势的研究小组所做的预测。

这项研究计划是由一个叫 2001 年计算机系统委员会进行的，它是由日本大社团、计算机公司和大学的 18 名研究人员组成的。

迄今这个小组作出的最惊人预测是，PC 机将从公司办公室桌面上消失，而成为工作空间不可分割的一部分。

一部 PC 机的部件将不再单独包装在机箱内，而是装在桌子里，挂在隔墙上的大型等离子体或电发光平板显示器将起到监视器与可视电话显示器的双重作用。

高分辨力的触摸液晶显示屏将坐在桌面上，允许用笔作指示和数据输入。当需要更快性能时，用户将买个新的计算机模块插入其办公桌里。

同时，在家庭中，计算机像电视一样常见，让用户坐在安乐椅上就能进行购物、发送与接收电子邮件、查看进来的传真和打可视电话，它们的输入是用一个手持的远程终端或分开的便携式计算机进行的。

据此研究小组称，计算机的接口将远比今天的鼠标器驱动的图形用户接口更友好。

该小组还预测了下列即将出现的动向：

- 日本公司为了在世界市场上保持竞争力所必需的灵活性和成本效益性，将放弃长久以来用于保护自己的专用计算机系统，而用联网的 Unix 应用软件来替代它们。
- 大多数公司的应用将从大型机转移到工作站上。
- 从大型机向分布式客户机/服务器系统的缩小化差不多将使小型机和中档大型机从公司的计算机机房中消失，高档大型机将降级到只完成管理大型 Unix 数据库这样一个单一的任务。
- 工人将使用具有无线通信功能的高性能手持计算机。
- RISC 微处理器将最终地消除工作站与 PC 机之间越来越小的差距。
- 计算机将使用基于多媒体的“人类接口”。
- 宽带的 ISDN 通信将广泛用于多媒体数据的高速传输。

^① broadband 宽带的

- 芯片设计与制造技术将继续发展，生产出 256 兆字节的存储器芯片和实验性的 1 吉字节的 DRAM 芯片。

- 在非易失性快擦写存储器方面类似的进展将会导致用电子“硅盘”来代替硬磁盘，这将使便携式计算机的尺寸和重量大大减小。

The Top 10 Trends in the Computer Industry

Computerworld Editor Paul Gillin offered his views on the top 10 trends affecting the computer industry.

1. RELENTLESS IMPROVEMENTS IN HARDWARE PRICE/PERFORMANCE

The computing hardware price/performance continues to double every 18 months. Computer hardware is now so affordable that the cost of additional MIPS is not a serious factor in business buying decisions. As a result, computers will move into many new areas of the office and home where cost had once made them prohibitive. Software will grow larger and more functional as vendors anticipate that galloping price/performance improvements will compensate for software performance shortcomings.

2. VAST EXPANSION OF THE USER BASE

Computers are much less scary to use than they used to be. That, combined with falling prices, will greatly expand the user base in the home and office over the next several years. Expect many new applications of computers to emerge, particularly as information intensive organizations like publishers and educational institutions find new ways to leverage their existing resources.

3. IMPROVEMENTS IN USER INTERFACES

Ease of use improvements inspired by video games and more sophisticated usability research will contribute greatly to the creation of mass markets for computers. Work in voice and handwriting recognition, as well as more sophisticated point-and-click interfaces, will be intense through the rest of this decade.

4. THE INTERNET

The Internet is the most important social dynamic driving the industry today—it will change the way people work, relax and learn. It will create new types of organizations and transform the worlds of business and politics. And it may eliminate the need for whole classes of industries that basically act as middlemen between suppliers and consumers.

5. DIGITIZATION

The large scale shift from analog to digital formats will remove the limitations of space and time from information transmission. We will increasingly take it for granted that any information can be obtained within a few seconds if we simply know where it is.

6. TELECOMMUNICATIONS DEREGULATION

It's going to be chaotic in telecommunications for the next several years as competitive barriers drop and new players—from railroads to utilities—enter the market. Shakeout is in-

evitable, but in the meantime, business and consumers will enjoy much greater speeds, a lot of new services and rapid price declines.

7. OBJECT ORIENTATION

While hardware price/performance improves by geometric factors, software developers still work much the same way they did 30 years ago. Object orientation will change all that, allowing code to be used again and again. Software will become more modular and disposable. Big productivity gains will be realized after the current standards mess is sorted out.

8. MIGRATION TO NEW ARCHITECTURES

The downside of new technology is the often painful process of getting there from here. Migration issues will become even more important as the installed base gets bigger and the shift to new technologies becomes more complex. The PC side of the industry still doesn't understand this very well, yet migration issues will be a powerful market force in the future, inhibiting radical new technologies and favoring staged improvements to tried and true products.

9. BUSINESS RESTRUCTURING

Industry is undergoing a profound structural change, with jobs shifting out of manufacturing and into "knowledge" categories. Flattened bureaucracies and globalization^① will favor technologies that allow people to work better in small, occasionally connected groups.

10. MICROSOFT'S RISE TO DOMINANCE

Microsoft has only become the 800 pound gorilla of the computer industry in the last three years. Its impact will be profound as it consolidates its hold. Where Microsoft goes, the rest of the industry will follow. But Microsoft is no circa 1985 IBM. There will still be plenty of opportunity left in software areas in which Microsoft has been unsuccessful (networks, home and small business software) or with which it doesn't bother (wide area networks, PC hardware).

计算机工业的十大趋势

美国《计算机世界》主编保尔·杰林对影响计算机工业的十大趋势发表了他的看法。

1. 硬件价格/性能比持续不断的改善

计算硬件的价格/性能比继续以每 18 个月翻一番的速度改进。现在,计算机的硬件是如此的便宜,以致增加百万条指令每秒计算能力的价格不再是购买决策中的重要问题。因此,计算机将进入曾经因价格高昂而无法进入的办公室和家庭中的很多新领域。软件将变得更大、功能更多,因为供应商期待着急剧改进的价格/性能比将补偿软件性能的缺陷。

2. 用户群大大扩展

计算机远不是过去通常让人害怕使用的东西。加上价格的下降,在今后几年内,这将大大扩大家庭和办公室中的用户群。预计将有很多计算机的新应用问世,特别是由于信息密集的单位,如出版社和教育机构等,将找到新方法利用它们现有的资源。

3. 用户接口的改进

① globalization 全球化

在视频游戏和更先进的可用性研究的刺激下,(人机接口)易用方面的改进将大大地有助于计算机大众市场的形成。在 90 年代余下的时间内,语音和手写体识别的研究以及更复杂的(鼠标器)点击接口研究将得到加强。

4. Internet 网

Internet 网是今天驱动业界前进的最重要的社会动力——它将改变人们工作、休闲和学习的方式。它将创造新型的机构、改造商界和政界,并有可能消除整个行业对基本上起供应商与消费者之间中间人角色之需求。

5. 数字化

大规模地从模拟形式转到数字形式将消除信息传输中的时空限制。我们将越来越认为,任何信息只要我们知道它在何处,就能在几秒钟内获取到。

6. 电信自由化

今后几年中,随着竞争壁垒的消除和从铁路到公用事业等新机构介入此市场,电信业将进入战国时期。优胜劣汰是不可避免的,但同时商界和消费者将享受到更快得多的速度、大量的新服务及急速的价格下降。

7. 面向目标

虽然硬件的价格/性能比以几何系数改进着,而软件开发商的工作仍停留在与 30 年前极为相似的工作方式上。面向对象将改变这一切,让程序代码一次又一次地重复使用。软件将变得更加模块化和易处置。在当前有关标准的混战解决之后,(软件)生产率将会有大的提高。

8. 向新体系结构转移

新技术的下降价趋势常常是痛苦的转移过渡过程。随着计算机的装机总量越来越大、以及向新技术的转移变得更为复杂,转移问题将变得更为重要。计算机工业界的 PC 机部门对此还没有很好理解,今后转移问题将是一股强大的市场力量,从而阻碍革命性的新技术和受到欢迎的阶段性改进在产品中试验并得到真正应用。

9. 企业重构

工业界正在经历一场深刻的结构变化,很多工作将从制造部门移到“知识”部门。官僚主义的减少和市场全球化,将有利于可让人们更好地在随时需要互联的小组中工作的技术发展。

10. 微软公司上升到霸主地位

在过去三年中,唯有微软公司成为计算机工业界举足轻重的大腕。随着微软公司巩固它已有的地盘,其影响将是深远的。今天,微软公司走到哪里,业界的其它公司就会跟到哪里。但是,微软公司再不是 1985 年前后的 IBM。在微软公司尚未成功的软件领域(网络、家庭和小企业软件)或者微软公司尚未涉足的部门(广域网、PC 机硬件),仍给其它公司留下了大量的机遇。