

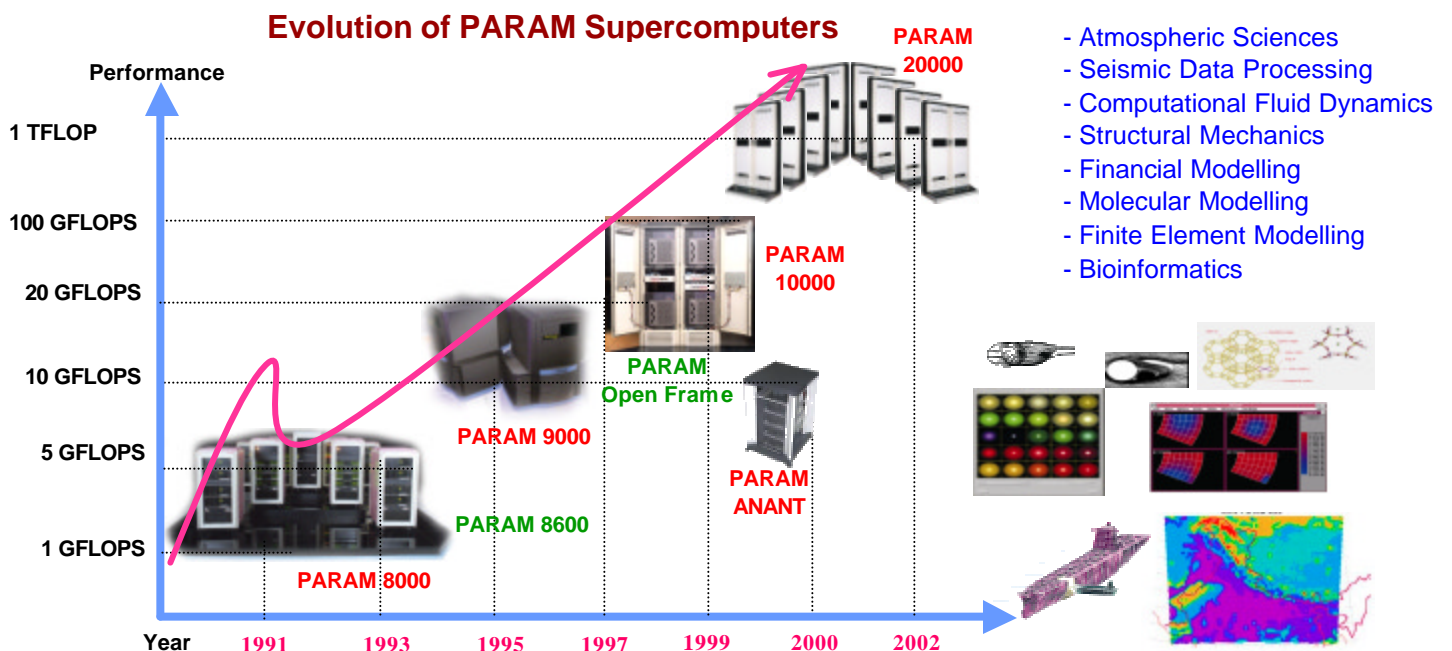
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING PUNE 411007

Overview

Set up over a decade ago, as India's national initiative for design, development and delivery of high performance computing (supercomputer systems) and solutions based on parallel processing technology, the Centre for Development of Advanced Computing (C-DAC) has over the years diversified its activities, transferring the expertise it acquired and technologies it developed in the high-performance computing to develop and deploy advanced Information Technology (IT) based solutions in various sectors of economy. Through this approach, it has maintained a balance between developing strategic technologies needed in the country in the high performance computing area for achieving self-reliance, and using skills so developed to commercialize its technologies and products to address the various the requirements.

C-DAC has been operating in a mission mode in order to develop the technologies in the specific time targeted manner. It has accordingly brought out in its earlier Missions, the PARAM series of Supercomputers. C-DAC's current mission in the IX Plan is for the development of the Next Generation High Performance Computing & Communications (HPCC) technologies and applications, taking advantage of the developments carried out in its previous missions in this area. As part of this, C-DAC has set up a National PARAM Supercomputing Facility (NPSF) to allow access to researchers to solve their compute intensive problems in various areas of Science & Engineering, and is now building a large teraflop system for solving very high-end scientific problems of national interest.

PARAM Systems and Application Softwares



Till date, with an investment of about Rs.125 crores and close to 2000 man years of efforts on development, apart from supplying 52 different types of PARAM supercomputers to various users including 8 overseas, C-DAC's efforts have brought India in the select league of nations having capability in this strategically and economically important area.

C-DAC's other activity, the language technology mission, was initiated to create a framework for support to the various living languages with diverse scripts on standard computers. C-DAC has innovated its trail blazing Graphics and Intelligence based Script Technology (GIST) to achieve this goal. This technology is now extended to include multimedia and multilingual computing solutions covering a wide range of applications such as publishing and printing, word processing, office automation suites with language interfaces for popular third party softwares on various operating platforms, electronic mail, natural language processing and artificial intelligence based machine aided translation & language learning, video & television and multimedia content in Indian languages. These have been successfully commercialized. Some popular products in this category are:

GIST Hardware

- Gist Card
- Gist Terminals



Artificial Intelligence

- Mantra
- LILA

GIST Software

- LEAP range of products (LEAP Office, iLEAP)
- ISM range
- Gist Software Development Kit
- iPlugin



Video Works

- Teleprompter
- Move CG
- MANAS

Multimedia

- Shaili
- Quick MM Album
- Pratibimb
- Dnyaneshwari



C-DAC also undertakes sponsored projects from Government for developments in specific areas. The total R&D outlay on such projects including C-DAC's inputs was Rs.14.78 crores in 2000-2001 and is expected to be Rs.23.3 crores in 2001-02.

Under the mandate given to C-DAC to generate manpower to address the growing demand for trained manpower in the extremely fast moving sector of Information Technology, C-DAC established

its Advanced Computing Training School (ACTS). This school currently offers a variety of course options in Software technologies, Enterprise System Management (ESM), Geomatics, VLSI designs, Digital Multimedia etc. through a dozen different courses currently at its own four centers and about 100 authorized centers around the country. This activity has established itself as a provider of quality training in advanced and some specialized areas of IT.

Building on its foundation in almost all major areas of Information Technology, C-DAC offers advanced computing products, solutions and services for several sectors including Education, Research, Power, Telecom, Health Care, Finance, Networking and Internet applications. Specific areas of focus currently are e-Governance, e-Commerce, Digital Libraries and advanced solutions based on Data Warehousing, Genetic Algorithms, Network Security, GIS, Artificial Intelligence, Real Time Systems, etc.

Data Warehousing for Decision Support in Government

Citizen Databases:

- Voter List
- Food and Distribution
- Industry & Professionals
- Household data
- Health Data
- Economic Status
- Demographic



The development and training activities have enabled C-DAC to generate revenue to sustain its operations and help plough back the surplus for further development and infrastructure creation. In the year 2000-2001 GDAC achieved a turnover of Rs.74 crores and expects this figure to go up to Rs.100 crores in the year 2001-2002 on these activities.