



Identification Data of Computing and statistics

Name:

Computing and statistics

Description:

This Services Unit provides all the computing and network solutions to the IATA and Biopolis (CSIC joint venture hosted inside IATA facilities), server and network solutions to DICV (regional CSIC institutional representation), as well as basic advice on statistical analysis to the IATA. Services to users and projects range from desktop pc installation and configuration, development of management and custom applications, network and systems administration, to scientific computing on statistical issues.

Technical director:

Fernando López Santoveña

Scientific director:

Lorenzo Zacañas García

Service type:

Mantenimiento y Técnicos

Keywords:

Computing, Networking, Web, WWW, E-mail, Information Technology, Statistics.

Intervention scope:

Interno

New creation or emergent?:

NO

May the users communicate in english?:

Si

Full electronic management?:

NO

Integrated quality programs?:

NO

Has it ISO certifications?:

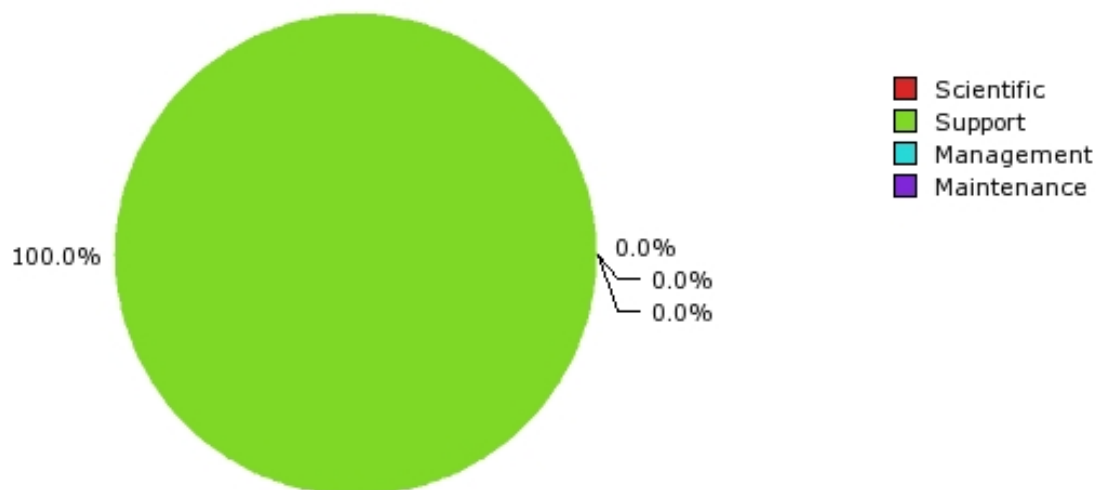
NO

ISO Certifications:

none



Staff



	Male	Female	TOTAL
Scientific	0	0	0
Support	4 (100%)	0 (0%)	4 (100%)
Management	0	0	0
Maintenance	0	0	0
TOTAL	4 (100%)	0 (0%)	4 (100%)

Scientific personnel by type

		Male	Female	TOTAL
Scientific Civil Servant	Research Professor	0 - %	0	0
	Research Scientist	0 - %	0	0
	Tenured Scientist	0 - %	0	0
	Full University Professor	0 - %	0	0
	University Professor	0 - %	0	0
	Other	0 - %	0	0
Scientific Hired	Ramón y Cajal	0 - %	0	0
	JAEDOC	0 - %	0	0
	Other	0 - %	0	0
Scientific Training	JAEPREDOC	0 - %	0	0
	Other	0 - %	0	0
Scientific personnel		0 - %	0	0



Facilities/services

Features offered

- Network infrastructure. Installation of a new point
- **Internal fare:** 0 **External fare:** 0 **SU:** 2
- **Description:** ?This service accounts for the installation of new network infrastructure points, including both fixed sockets and wireless access points. It includes planning, installation supervision and configuration costs. It is charged per new installed point.?

- Network infrastructure. Fixed cost.
- **Internal fare:** 0 **External fare:** 0 **SU:** 1
- **Description:** ?This service accounts for the management and configuration costs of network infrastructure points, including both fixed sockets and wireless access points. It includes maintenance of access points and cabling, help desk for network infrastructure problems and problem solving. It is charged per installed point.?

- Network equipment. Fixed cost
- **Internal fare:** 0 **External fare:** 0 **SU:** 10
- **Description:** ?Network infrastructure equipment has to be maintained, checking its availability for the smooth running of the network itself and adapting their configuration to client needs. This service accounts for the maintenance and configuration costs for network equipment, invested effort for network monitoring, and all the related activities including user support in network related problems. It includes all kinds of networking equipment including firewall, VPN server, WAN link to Rediris, WAN link switch to DICV, local switches, and the wireless access points and authorization servers. It is charged per equipment per year?.

- Systems. Server or virtual machine installation
- **Internal fare:** 0 **External fare:** 0 **SU:** 15
- **Description:** ?This service accounts for the installation and commissioning of new physical system servers and virtual machines, and it is charged per new system. It comprises the costs of studying the best solution for the needed requirements, testing of alternatives, effective hardware and system installation and configuration, and final operation testing. It is charged per installation or complete reinstallation of a running server due to platform change or hardware failure.?

- Systems. Server or virtual machine maintenance. Fixed cost
- **Internal fare:** 0 **External fare:** 0 **SU:** 10
- **Description:** ?This service accounts for the maintenance of the physical servers or virtual machines providing system services, ranging from DNS, DHCP or NTP to web, databases and video conferencing. It includes documentation, hardware and software updates, configuration changes needed to maintain services up and running and operation monitoring in order to detect malfunctions. It is charged per system per year.?

- Systems. User account maintenance
- **Internal fare:** 0 **External fare:** 0 **SU:** 2
- **Description:** ?The service includes creation and maintenance of user accounts and managing of services directly related to them: system disk quotas, e-mail system (which offers SMTP, POP and IMAP protocols, as well as a secure-web interface), ad-hoc and pre-created e-mail lists (for



the different kinds of personnel) and anti-spam analysis of incoming e-mail (including log inspections and regular configuration adaptations to changing spam profiles). It also includes documentation and assistance to users in topics such as e-mail, network data storage, network applications and services or personal web pages, along with resolution of problems related to these topics. It is charged per user, per year."

- Local applications. Maintenance. Fixed cost
- **Internal fare: 0 External fare: 0 SU: 1**
- **Description:** ?This service accounts for the maintenance of server local applications, such as the web interface for internal purchase orders, network status monitoring and user consults on spam rejections. It does not include the addition of new functionality to existing applications.?

- Local applications. New application development
- **Internal fare: 0 External fare: 0 SU: 15**
- **Description:** ?This service accounts for the costs of the analysis, programming and tests required for developing new server applications or adding new functionalities to existing ones.?

- Microcomputing. Fixed cost
- **Internal fare: 0 External fare: 0 SU: 3**
- **Description:** ?This service provides the assistance users need in the process of running a desktop or laptop personal computer and its peripherals in its everyday work. It includes the heavy duty of general help desk about usage of applications, printers or other peripherals managing and problems with computer hardware and software. It also includes guidance about purchasing of new equipment or components, user documentation maintenance and DNS and DHCP network registry maintenance. It is charged with a fixed cost per desktop or laptop computer per year."

- Microcomputing. Hardware installation and maintenance
- **Internal fare: 0 External fare: 0 SU: 2**
- **Description:** ?This service accounts for hardware installation and testing, malfunction diagnostics, repairing when possible and component substitution or upgrading in users' computers, printers or external disks. It is charged per event.?

- Microcomputing. Software installation and maintenance
- **Internal fare: 0 External fare: 0 SU: 3**
- **Description:** ?This service accounts for installation, upgrading and configuration of software in users' laptop or desktop computers and peripherals, including as much operative systems (currently supporting Windows XP, 2K and Vista) as applications (office programs, antivirus, utilities, ...). It also includes data recovery in damaged computers due to hardware failures or virus or trojans activity. It is charged per event.?

- Web page. Page development
- **Internal fare: 0 External fare: 0 SU: 8**
- **Description:** ?This service accounts for the design of singular web pages or groups of related ones, using provided or custom templates, and the development of the templates themselves or php scripts used later as templates. It is charged per development.?

- Web page. Page maintenance. Fixed cost.



- **Internal fare:** 0 **External fare:** 0 **SU:** 1
- **Description:** ?Web page content maintenance includes content update and minor changes to appearance, page structure or php scripts where dynamic content exists. It is charged per Web page.?

- Training.
- **Internal fare:** 0 **External fare:** 0 **SU:** 10
- **Description:** ?This services accounts for training courses for users dictated by computing staff as well as preparation of course documentation and materials. It is charged per course.?

- Scientific computing. Statistical advice.
- **Internal fare:** 0 **External fare:** 0 **SU:** 1
- **Description:** ?This service provides basic guidance on statistical analysis of data to scientist users. It is not possible to offer deeper support due to lack of time and personnel . This service is charged per consultation.?



Economic Data

Costs	2003	2004	2005	2006	2007
Staff	118	122	145	155	142
Execution	3.14	8.15	11.27	7.77	11.31
Maintenance	0	0	0	0	0
Total	121.14	130.15	156.27	162.77	153.31

Income	2003	2004	2005	2006	2007
Fares(Internal)	0	0	0	0	0
Fares(External)	0	0	0	0	0
Total	0	0	0	0	0

Subsidies	2003	2004	2005	2006	2007
Centre	0	0	0	0	0
CSIC	0	0	0	0	0
Other institutions	0	0	0	0	0
Total	0	0	0	0	0

Usage Data

	2003	2004	2005	2006	2007
Internal users	305	311	288	285	313
External users	0	0	0	0	0
Total	305	311	288	285	313

	2003	2004	2005	2006	2007
Internal services	3160	3382	3629	4381	4793
External services	0	0	0	0	0
Total	3160	3382	3629	4381	4793
Efficiency level**	0	0	0	0	0

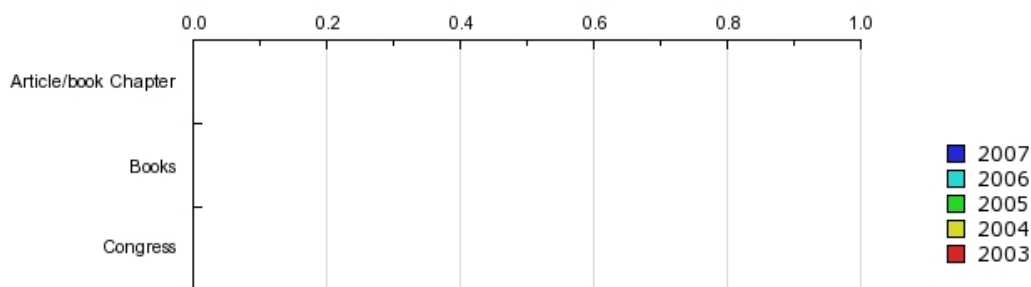
* Facilities SUs computed using the data registered in the Service facilities table

** The efficiency level is the ratio between the total of the Service SUs units and the total cost in k€



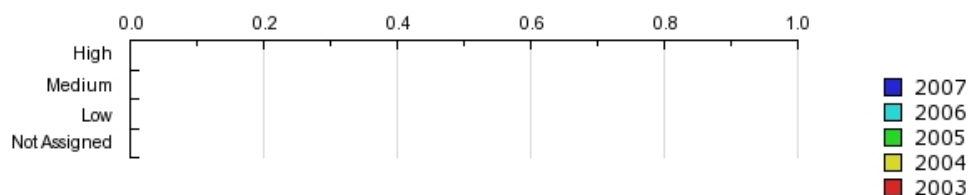
Publications by type

Article / Book chapters by impact						
Type	2003	2004	2005	2006	2007	Total
Article/Book chapter	0	0	0	0	0	0
Books	0	0	0	0	0	0
Congress	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

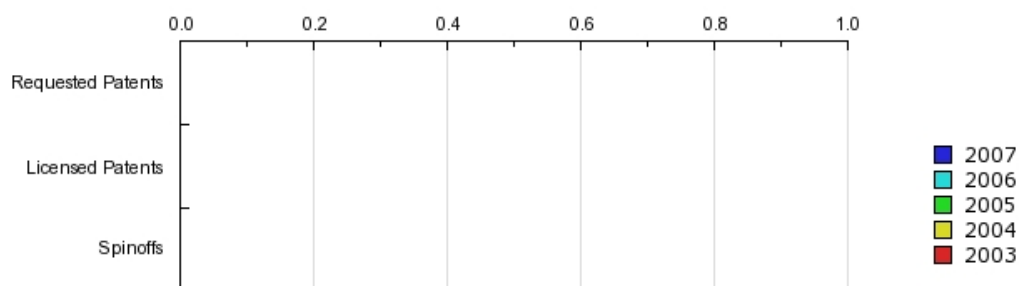


Article / Book chapters by impact

Article / Book chapters by impact						
Type	2003	2004	2005	2006	2007	Total
HIGH	0	0	0	0	0	0
MEDIUM	0	0	0	0	0	0
LOW	0	0	0	0	0	0
Not assigned	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

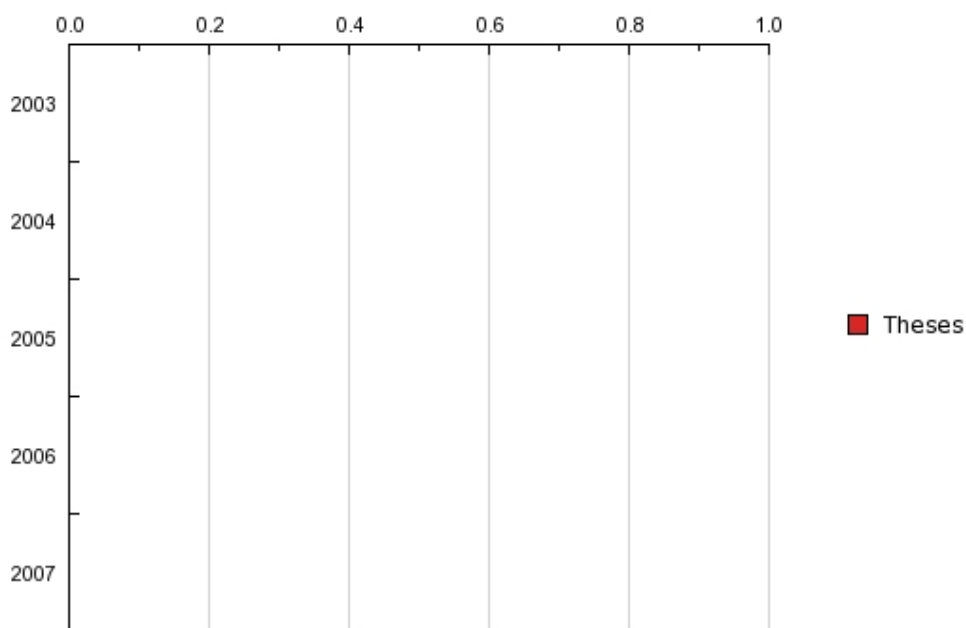


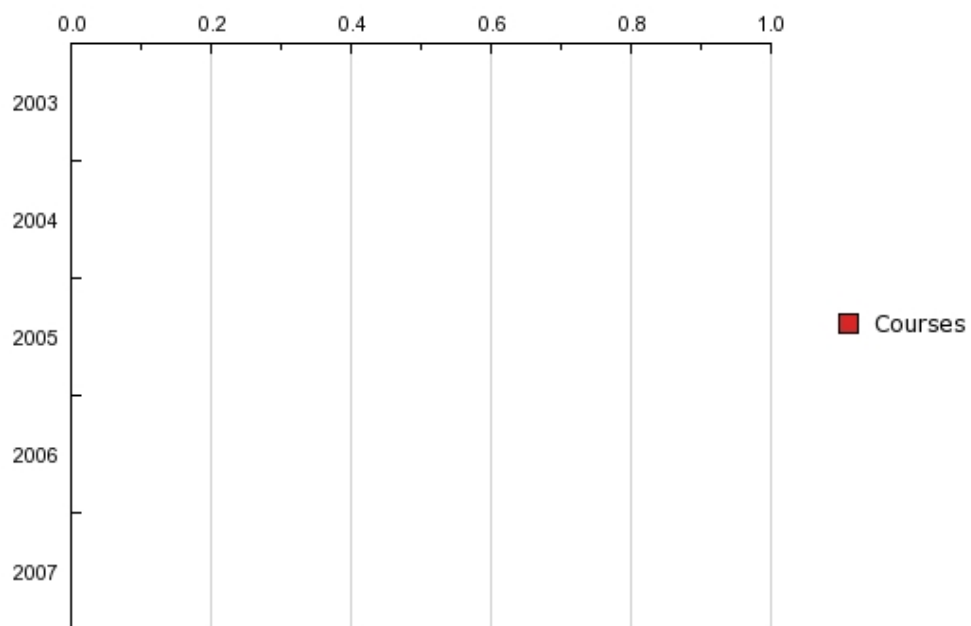
Totals by type						
Type	2003	2004	2005	2006	2007	Total
Requested patents	0	0	0	0	0	0
Licensed patents	0	0	0	0	0	0
Spinoffs	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0



Training by type

Training by type						
Type	2003	2004	2005	2006	2007	Total
Theses	0	0	0	0	0	0
Courses (hours)	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

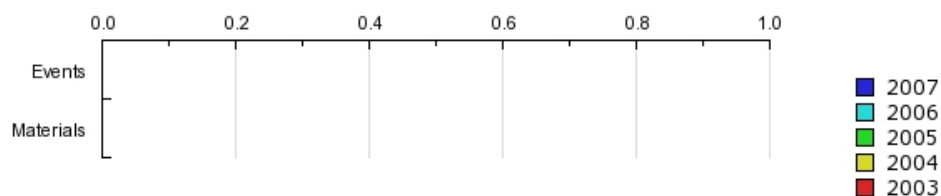






Science divulgation activities

Science divulgation activities						
Type	2003	2004	2005	2006	2007	Total
Events	0	0	0	0	0	0
Materials	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0





SWOT

Weaknesses

- No effective leading of the services unit since director Dr. Navarro Fabra beheaded the unit in Dec 2, 1998.
Personnel shortage. Contracts I3P only last 2 years so we are unable to amortize the time spent in training the engaged person. We would need work contracts instead of training contracts as I3P are. In spite of the personnel shortage, some services occur in 24 hours format and the diversity of services supplied is wide.
Loss of motivation due to lack of incentives or low salaries. Prospect of promotion are low for both temporary and permanent staff. This makes people to look for other activities and not to dedicate itself totally to this work.
Some critical services are managed by a single person. In case of illness or leaving periods, the service could be at risk.
Lack of time for training of users and diffusion of offered services. Lack of feedback from users.

Threats

- Lack of material resources. Lack of confidence from the Institute's manager, who coordinates the investments.
During 2010 the Institute will have 40% more room: users and their needs will increase in that fold at least. In the same year, we will lose one person because of his retirement.
Lack of a well defined professional career path for the technical staff in the CSIC and offers of better work positions in other centers or institutions may attract our personnel and aggravate our situation.
Under-valuation of IT by scientific personnel (main clients) historically tends to affect technical and investment decisions at both CSIC and IATA levels.
Possibility of users drain to non-institutional services (e-mail at Gmail, data storage on external servers as getdropbox.com, etc.) due to the impossibility of providing the same quality of service because of lack of personnel, resources or users' information. This fact will add new problems which we will be unable to control, design or fix.

Strengths

- Proximity to the user: fast and effective answer.
Stable personnel has experience and capacity of evolution and self-training. Autonomy and creativity for the attainment of the internal objectives.
Direct link to RedIris backbone allow us to provide good networking services.
Open Source use in servers.

Opportunities

- Continuity of CTI integrated plans for homogeneization of network and system resources at CSIC level. Actions taken from 2005 on have been very positive.
Cooperation with some other similar CSIC institutes or RedIRIS from personal initiatives of the service workers. Global coordination of CSIC IT people will be a great challenge.
Open Source software: quality and cheapness if we manage to coordinate IT people from all over the CSIC.
Telecommuting could be a work modality to try mainly for application development.



RA (Relational Analysis)

Competitor groups

Colaborator groups

Leading groups

Selective Advantages

General Objectives

General Objectives, Goals?

The main goal of this service is to provide a good computer service in the scope of information technologies. Users have to be able to access a minimal guaranteed set of well supported services which provides network access, secure file and data storage, efficient e-mail communications, easy web publishing, printing, access to common software and receive assistance in their day to day use. Institute management have to be able to access corporative data and applications to deal with accounting and management tasks. Scientific projects and researchers have to be able to use software repositories, store data local and remotely and access powerful computer farms.

The use of resources requires specific authorization which involves the filling of paper requests and the approval of several parties. An effort should be done to make user bureaucracy easier, minimal and electronically if possible.

Every user at IATA has access to a desktop or laptop computer. One of the objectives of the computer services is to constantly improve the user experience in all their diary activities regarding computing related tasks. Main objective is to provide a catalog of services that fulfills all the user requirements, achieving them in a highly performance and cost effective way.

- Reach High Availability (>99%) in all the provided computing services, to further increase the already high confidence and throughput of users.
- Improve processes in service job distribution among personnel, management and traceability. Eliminate single points of failure in responsibilities, so at least two persons are available to take care of each task and back up the main responsible in case of illness or unavailability for any reason
- Automate processes to accomplish minimal human intervention, mainly in the most repetitive works. This includes: software installation and updates, service monitoring and start-up, alarms and communication of problems. This will increase throughput of the personnel improving the service.



- Design and apply contention plans for all the deployed services of the unit, including complete Data Backup and recovery plan in case of disaster.

- Improve documentation and dissemination of the unit. This objective would include internal documentation to the unit, as well as external documentation, catalog of services and guidelines provided to the users. A number of courses to help using this services would be perfect to foster user knowledge and utilization of some tools.

Scientific objectives

Knowledge Transfer objectives

Training objectives

To improve the on-line documentation concerning to all serve provided by the service.

To Impart formation courses to users of the different provisions.

Provide with the computer and teaching resourses to the computing class room

Outreach objectives

Internationalisation objectives

Full english translation of the on-line documentation on provided services (wifi, E-mail, etc.)

Common services objectives

Gender equality objectives

Quality programmes objectives



Electronic management objectives

Develop applications that allow an electronic relationship between all the IATA services and users on demanding and tracking of the services provided.
Telephonic resources by IP technology.

Efficiency objectives

Complete virtualization of servers.

Self-funding objectives

General Strategy

Summary

Actions to be taken in the computer-science service in order to accomplish with previously mentioned objectives:

- To incorporate a technician in computer science or specialist in computer science networks, which will help in the maintenance of the equipment and the computer science network of the IATA.
- To incorporate JAE technicians specialized in computer science, to help with the activities of this service.
- To replace the forthcoming retirement that will take place in 2010 as soon as possible. This service should be staffed by at least four or five personnel.
- The maintenance of the Web page will be transferred to the responsibilities and organization of the new Library and Documentation service, freeing the present service of this activity.
- Proper measures should be adopted to maintain the network, by outsourcing if necessary. The computer-science personnel should be freed from routine tasks and allowed to organize the system properly.
- Responsibilities should be shared and management and maintenance of the network and its components extended, in order to cover future eventualities.
- With the current extension works that are underway, we must properly estimate the proportions and forecast the future needs for Servers, auxiliary systems and all the necessary equipment and to avoid continuous deficiencies and shortcomings, and provide an efficient and stable service that will last several years.

Strategy Analysis

Summary



Progress Indicators (Quantitative objectives)

Progress Indicators (Quantitative objectives)

		Indicator	2010	2011	2012	2013
Funding(k€)	Self financing ⁽¹⁾					
Efficiency	Relative efficiency respect to					
Knowledge Transfer	Requested priority patents					
	Licensed priority patents					
	Spin-Offs					
	External services					
Training	Courses					
Outreach	Events					
	Material					
Internationalisation	Services in English?					
Management	Electronic management					
Quality programme	ISO certification					

Resources

Human resources

Personnel(number)	2010	2011	2012	2013	Total
Tenured Scientist	0	0	0	0	0
Higher Scientific Officer	0	0	0	0	0
Intermediate Specialist Technician	1	0	0	0	1
Research assistant	0	0	1	0	1
JAE-Senior	0	0	0	0	0
JAE-Doc	0	0	0	0	0
JAE-Pre	0	0	0	0	0
JAE-Tec	0	0	0	0	0

Financial resources

Action	2010	2011	2012	2013	Total
EQUIPA(k€)	0	0	0	0	0