JACoW

Joint Accelerator Conferences Website

http://www.JACoW.org/

A Short History, its Status and Aims

John Poole

Trieste, December 2003

JACoW the beginning

- Following the publication of EPAC96 on the web, Ilan Ben-Zvi - chairman of PAC'99 Programme Committee - proposed a Joint Website.
- PAC and EPAC organisers agreed to the principle and to give continued support. APAC was invited to join and JACoW was formally set up after a meeting at PAC'97.
- Since then more conferences have published on the site – Cyclotrons, LINAC and ICALEPCS

Terms of Reference - 1

- The rules for conducting the business of the Sites are established by agreement among the Organising Committees of each member series of conferences, through/by the Chairmen of the Scientific Programme Committees.
- The Organisers of each series undertake to adhere to a set of boundary conditions
- Changes to JACoW or to its activities have to be approved by a simple majority of the Chairmen of the Scientific Programme Committees for the member conferences.
- It is the responsibility of the Chairman of JACoW to communicate all proposals for change to the Scientific Programme Committee Chairmen.

Terms of Reference - 2

- **JACoW Steering Committee**

  The JACoW Steering Committee is the formal body which reports to the conference chairmen.
- **Composition of the Steering Committee:**

  Previous, present, future and co-opted representatives of Editorial Boards of each series and the webmasters of JACoW Websites - the change happening immediately after the 'current' conference has taken place. JACoW is led by a Chairman appointed for three year periods.
- **JACoW Team**

  The 'Team' comprises the Steering Committee and experts from around the world who meet at the conferences and at annual meetings. We are involved in all aspects of the electronic publication of proceedings for example, we agree on templates, promote author education, develop new techniques for processing papers etc.

Terms of Reference - 3

- **Editorial Responsibility**

  The Proceedings of each conference are the responsibility of the Editors or Editorial Board, or a person designated by the Chairman of the Scientific Programme Committee of the relevant conference.

- **Web and Mirror Sites**

  JACoW is located at CERN, with a full functionality mirror site in Asia , at KEK. The organisations hosting these sites undertake to provide the necessary hard- and software, backup and maintenance.

Boundary Conditions

Member conferences have to agree to the following:

- Compliance with some standardisation (for example adherence to the basic requirements for publication on JACoW)
- To deliver a fully compliant set of files ready for publication on the Web site.
- A collaborative approach to template preparation and software to be supported
- A collaborative approach to the selection of Acrobat software to ensure backward compatibility
- Attendance of at least the technical people at JACoW Steering Committee meetings during each PAC and EPAC Conference
- Attendance at annual JACoW Team Meetings
- To continue and possibly expand the international collaboration in electronic publication
- To encourage publication of post-mortems.

Membership

- In addition to the series already published, there are some new members and three more conferences with applications under consideration.
  - DIPAC 99 and 03 are almost ready for publication
  - RuPAC has applied for their 2004 conference.
  - Superconducting RF conference is considering their application
  - ECR Ion Source Conference is considering their application
  - FEL Conference Series is considering their application.

Team Activities

The team :

- gives support to members for processing papers during and after conferences.
- trains people joining the field through hands-on experience at conferences.
- develops new techniques and procedures for the production of proceedings.
- agrees on standards and templates.

Team Meetings

LBNL, November 2002
20 full time participants plus some local part-timers.

- Database Workshop (2 days)
  - Presentation of InDiCo
  - Information analysis for the DB system
  - Overall schema - processes and data
  - Software design
  - Database design
  - Implementation plan
- Team Meeting (2 days)
  - JACoW Status Review
  - Reports from conference series
  - Preparations for future conferences
  - Technical issues (scanning project, mirror sites …)
  - Library requirements
  - What's new
  - Summing up

Trieste 2003: one day follow up on database system, one and a half days on technical issues.

JACoW Home page - Microsoft Internet Explorer provided by CERN

File Edit View Favorites Tools Help

Joint Accelerator Conferences Website

- Home

For authors:
- Templates for Papers
- Information and help
- Author Profile Repository

For editors:
- The Steering Committee
- Terms of Reference
- Requirements for membership
- Meetings
- Documentation

- About JACoW

Joint Accelerator Conferences Proceedings

In general, each Conference retains the Copyright to their proceedings but allows that copies of single articles may be taken from this site, provided that the source is acknowledged.
The conference papers have been processed using Adobe Acrobat software.
Acrobat Reader 3 or later is required.

The Conference Proceedings							
PAC'67	PAC'87	PAC'89	PAC'91	PAC'93	PAC'95	EPAC'96	LINAC'96
PAC'97	EPAC'98	APAC'98	LINAC'98	PAC'99	ICALEPCS'99	EPAC'00	LINAC'00
APAC'01	Cyclotrons'01	ICALEPCS'01	PAC'01	EPAC'02	LINAC'02		

SEARCH Engine

This form is based on the Inktomi Search Engine and sets various parameters to limit the search to the appropriate areas.
Full Boolean searches are possible and once the search has been submitted it can be refined using the Inktomi form.
In order to eliminate unwanted papers in the search result, users are strongly advised to use the '+' operator which requires that the particular string is found.
The help page gives more details and examples for the formulation of searches.

Select Conferences

☐ PAC'67 ☐ PAC'87 ☐ PAC'89 ☐ PAC'91 ☐ PAC'93 ☐ PAC'95 ☐ EPAC'96 ☐ LINAC'96
☐ PAC'97 ☐ EPAC'98 ☐ APAC'98 ☐ LINAC'98 ☐ PAC'99 ☐ ICALEPCS'99 ☐ EPAC'00 ☐ LINAC'00
☐ APAC'01 ☐ Cyclotrons'01 ☐ ICALEPCS'01 ☐ PAC'01 ☐ EPAC'02 ☐ LINAC'02 ☑ ALL

Choose Search Criteria

Author(s)
Title
Keyword
Text of paper

Go!

Since 07-Nov-01

Searching

SEARCH Engine

This form is based on the Inktomi Search Engine and sets various parameters to limit the search to the appropriate areas.
Full Boolean searches are possible and once the search has been submitted it can be refined using the Inktomi form.
In order to eliminate unwanted papers in the search result, users are strongly advised to use the '+' operator which requires that the particular string is found.
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Select Conferences

☐ PAC'67	☐ PAC'87	☐ PAC'89	☐ PAC'91	☐ PAC'93	☐ PAC'95	☐ EPAC'96	☐ LINAC'96
☐ PAC'97	☐ EPAC'98	☐ APAC'98	☐ LINAC'98	☐ PAC'99	☐ ICALEPCS'99	☐ EPAC'00	☐ LINAC'00
☐ APAC'01	☐ Cyclotrons'01	☐ ICALEPCS'01	☐ PAC'01	☐ EPAC'02	☐ LINAC'02	☑ ALL	

Choose Search Criteria

Author(s)
Title
Keyword
Text of paper

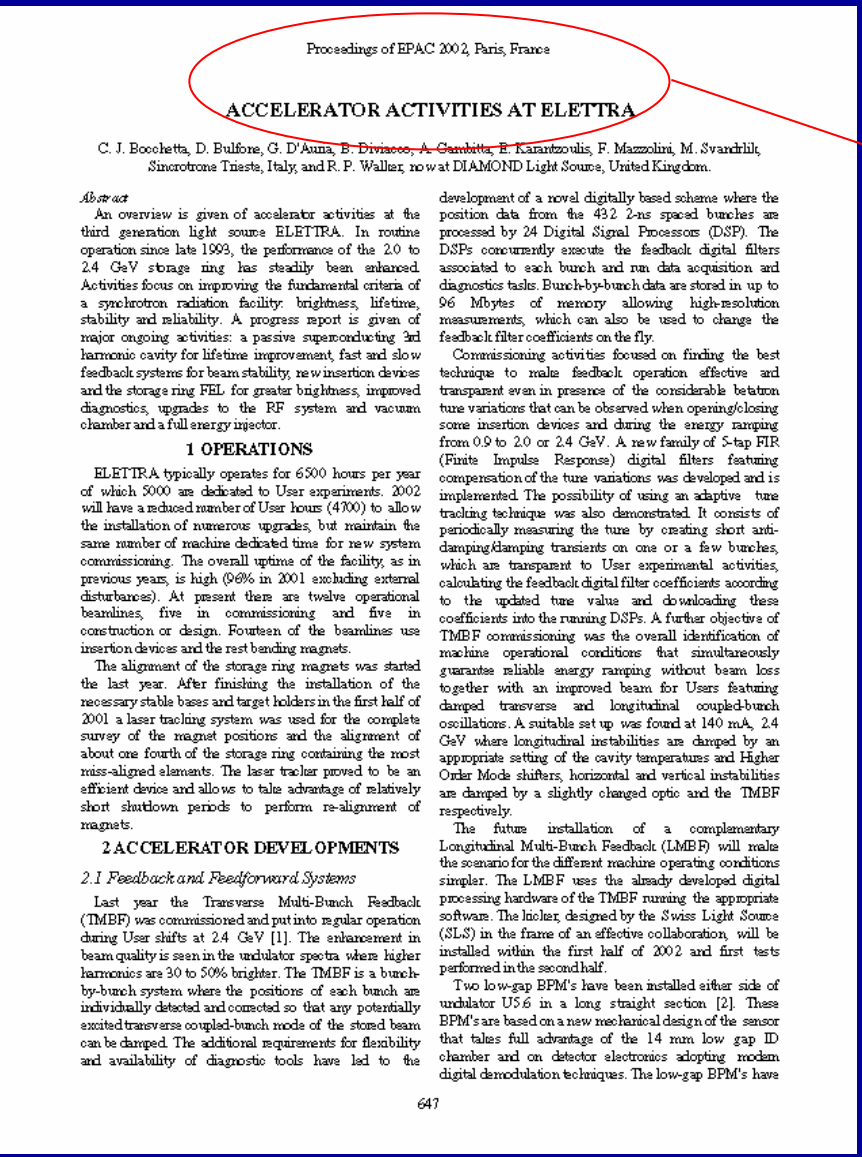
Go!

+poole –"D.E. Poole" - will return Mike and my papers, but not Dave's.

Technical Requirements

- Paper Size
  - A4 wide by US letter high
- Page Layout
  - text centred on the page and each page carries a page number and conference name (and in some cases copyright information).
- Performance Issues
  - Any individual page should display in less than about 5 seconds on a 'normal' specification computer (say 800MHz machine in 2003).
- Hidden Fields
  - Title - Title with anglicised characters (in general, no math or foreign characters); Author - author list without affiliations; Subject - variable but often the classification given by the conference; Keywords - list of up to 5 keywords.
- Type 3 fonts
  - maximum effort to avoid type 3 fonts in our PDF files.
- Indexes
  - HTML Indexes or 'wrapper' files (author index and table of contents etc.)

Page Layout



Proceedings of EPAC 2002, Paris, France

ACCELERATOR ACTIVITIES AT ELETTRA

C. J. Bocchetta, D. Bulfone, G. D'Auria, B. Diviacco, A. Gambitta, E. Karantzoulis, F. Mazzolini, M. Svandrlik, Sincrotrone Trieste, Italy, and R. P. Walker, now at DIAMOND Light Source, United Kingdom.

Abstract

An overview is given of accelerator activities at the third generation light source ELETTRA. In routine operation since late 1993, the performance of the 2.0 to 2.4 GeV storage ring has steadily been enhanced. Activities focus on improving the fundamental criteria of a synchrotron radiation facility: brightness, lifetime, stability and reliability. A progress report is given of major ongoing activities: a passive superconducting 3rd harmonic cavity for lifetime improvement, fast and slow feedback systems for beam stability, new insertion devices and the storage ring FEL for greater brightness, improved diagnostics, upgrades to the RF system and vacuum chamber and a full energy injector.

1 OPERATIONS

ELETTRA typically operates for 6500 hours per year of which 5000 are dedicated to User experiments. 2002 will have a reduced number of User hours (4700) to allow the installation of numerous upgrades, but maintain the same number of machine dedicated time for new system commissioning. The overall uptime of the facility, as in previous years, is high (96% in 2001 excluding external disturbances). At present there are twelve operational beamlines, five in commissioning and five in construction or design. Fourteen of the beamlines use insertion devices and the rest bending magnets.

The alignment of the storage ring magnets was started the last year. After finishing the installation of the necessary stable bases and target holders in the first half of 2001 a laser tracking system was used for the complete survey of the magnet positions and the alignment of about one fourth of the storage ring containing the most miss-aligned elements. The laser tracker proved to be an efficient device and allows to take advantage of relatively short shutdown periods to perform re-alignment of magnets.

2 ACCELERATOR DEVELOPMENTS

2.1 Feedback and Feedforward Systems

Last year the Transverse Multi-Bunch Feedback (TMBF) was commissioned and put into regular operation during User shifts at 2.4 GeV [1]. The enhancement in beam quality is seen in the undulator spectra where higher harmonics are 30 to 50% brighter. The TMBF is a bunch-by-bunch system where the positions of each bunch are individually detected and corrected so that any potentially excited transverse coupled-bunch mode of the stored beam can be damped. The additional requirements for flexibility and availability of diagnostic tools have led to the development of a novel digitally based scheme where the position data from the 432 2-ns spaced bunches are processed by 24 Digital Signal Processors (DSP). The DSPs concurrently execute the feedback digital filters associated to each bunch and run data acquisition and diagnostics tasks. Bunch-by-bunch data are stored in up to 96 Mbytes of memory allowing high-resolution measurements, which can also be used to change the feedback filter coefficients on the fly.

Commissioning activities focused on finding the best technique to make feedback operation effective and transparent even in presence of the considerable betatron tune variations that can be observed when opening/closing some insertion devices and during the energy ramping from 0.9 to 2.0 or 2.4 GeV. A new family of 5-tap FIR (Finite Impulse Response) digital filters featuring compensation of the tune variations was developed and is implemented. The possibility of using an adaptive tune tracking technique was also demonstrated. It consists of periodically measuring the tune by creating short anti-damping/damping transients on one or a few bunches, which are transparent to User experimental activities, calculating the feedback digital filter coefficients according to the updated tune value and downloading these coefficients into the running DSPs. A further objective of TMBF commissioning was the overall identification of machine operational conditions that simultaneously guarantee reliable energy ramping without beam loss together with an improved beam for Users featuring damped transverse and longitudinal coupled-bunch oscillations. A suitable set up was found at 140 mA, 2.4 GeV where longitudinal instabilities are damped by an appropriate setting of the cavity temperatures and Higher Order Mode shifters, horizontal and vertical instabilities are damped by a slightly changed optic and the TMBF respectively.

The future installation of a complementary Longitudinal Multi-Bunch Feedback (LMBF) will make the scenario for the different machine operating conditions simpler. The LMBF uses the already developed digital processing hardware of the TMBF running the appropriate software. The kicker, designed by the *Swiss Light Source (SLS)* in the frame of an effective collaboration, will be installed within the first half of 2002 and first tests performed in the second half.

Two low-gap BPM's have been installed either side of undulator U56 in a long straight section [2]. These BPM's are based on a new mechanical design of the sensor that takes full advantage of the 14 mm low gap ID chamber and on detector electronics adopting modern digital demodulation techniques. The low-gap BPM's have

Proceedings of EPAC 2002, Paris, France

ACCELERATOR ACTIVITIES AT ELETTRA

Text centred on the page
A4 wide and US letter high
Numbered pages

Type 3 Fonts

- When type 3 fonts are used the text is rendered as an image which is optimised for one particular size on the screen. Type 1 and TrueType fonts preserve scaling information and they will display correctly at all magnifications.
- With Type 3 fonts, the PDF files are larger and the presentation on the screen is of much poorer quality.
- Here is an example

Other Font Problems

3 results found, sorted by relevance sort by date hide summaries 1-3

Pencil-Like mm-Size Electron Beams Produced with Linear Inductive Voltage Adders (LIVA) 72%
3(1&,/□/,.(□00□6,=(□(/(&7521□%($06□352'8&('□:,7+□/,1($5 ,1'8&7,9(□92/7$*(□$''(56□ /,9$ 0□*□□0D]
DUDNLV□□-□:□□3RXNH\□□'□&□□5RYDQJ□□-□(□□0DHQFKHQ□□6□ ...
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21 Jun 03
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Eugene L. Neau Sandia National Laboratories, Albuquerque, NM I. ABSTRACT High current pulsed accelerator technology was developed during the late 60's ...
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sort by date hide summaries 1-3

Original Font	Type	Encoding	Actual Font	Type
MSTT31c31c00	Type 1	Custom	Embedded Subset	Type 1
MSTT31c3c900	Type 1	Custom	Embedded Subset	Type 1
Symbol	Type 1	Built-in	Symbol	Type 1
MSTT31c3e300	Type 1	Custom	Embedded Subset	Type 1
TimesNewRoman	TrueType	Windows	Embedded	TrueType

List All Fonts... OK

Why do we want PostScript ?

- We set a number of parameters in Acrobat Distiller which control the performance/quality of the final PDF.
  - Compatibility with earlier Acrobat Readers
  - Compression of graphics
  - Font embedding
  - Colour management
  - Encoding
- We have to manipulate the PDF to insert the banner and page numbers, so we also want a standard product.
- PDFWriter for example, produces PDF which we cannot use. PDFMaker can be OK, but the distiller parameters have to be set correctly.

Templates

Templates for papers

Last modified March 2003

Special Note on WORD Templates

If you cannot, or choose not to install the template (.dot file) on your computer, please download the document file (.doc file) and use it to format your paper correctly.
Templates work best when you install the document template (.dot file) on your computer. Please follow the instructions to install them on your computer.

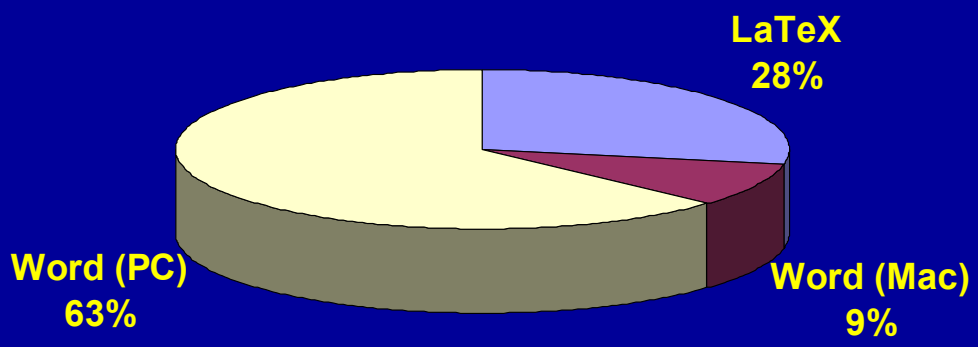
PLEASE NOTE: These WORD templates (.dot) contain macros. Only two features will be unavailable if you choose to disable macros -- Full Page Width Macro and Column Format Macro. You may need to change your macro security settings (**Tools**, **Macros**, **Security**) to use macros.

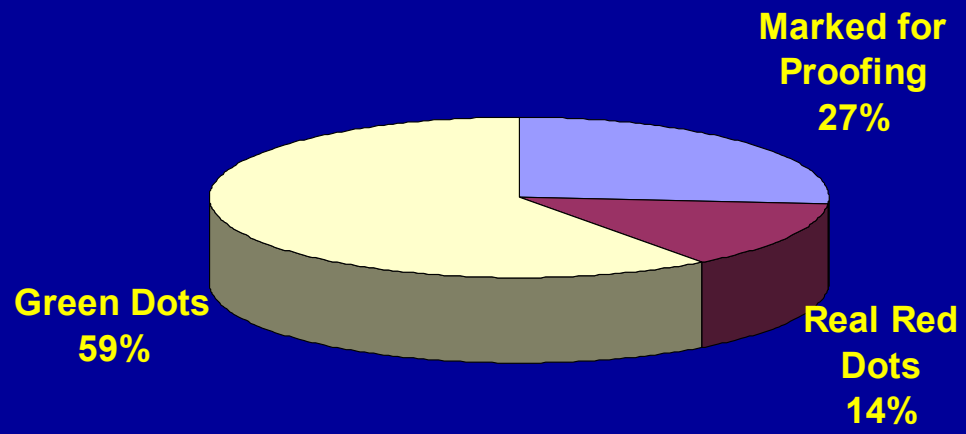
A4 Paper Size		
LaTeX	WORD Templates (.Dot)	WORD Files (.Doc)
Document	WORD 2000 for PC	WORD 2000 for PC
Class file	WORD 98 for MAC	WORD 98 for MAC
Figure 1	WORD 2001 for MAC	WORD 2001 for MAC
Figure 2	WORD 2002 (XP) for PC	WORD 2002 (XP) for PC

US Letter Size		
LaTeX	WORD Templates (.Dot)	WORD Files (.Doc)
Document	WORD 2000 for PC	WORD 2000 for PC
Class file	WORD 98 for MAC	WORD 98 for MAC
Figure 1	WORD 2001 for MAC	WORD 2001 for MAC
Figure 2	WORD 2002 (XP) for PC	WORD 2002 (XP) for PC

Sample postscript file

EPAC 2002 Statistics





Problems with Submitted Files

EPAC'02 gave us the following:

No Postscript	8%
Format problems	7%
Type 3 fonts (LaTeX)	5%
Unusable files	5%
Multiple problems	3%
Font problems	3%
A4 printed on US paper	2%
Slow graphics	2%
Everything possible wrong	1%
Multiple PS files	3 papers

Scanning Project

- PAC started a project to scan proceedings from the pre-electronic era.
- So far 5 conferences have been scanned and published on JACoW.
- The proceedings have all of the features and functionality of the electronic era but have slightly poorer visual quality.
- Further funding should be available from PAC'03 and it is hoped to include the remaining 9 PAC's and 4 EPAC's (funding from EPAC'02)

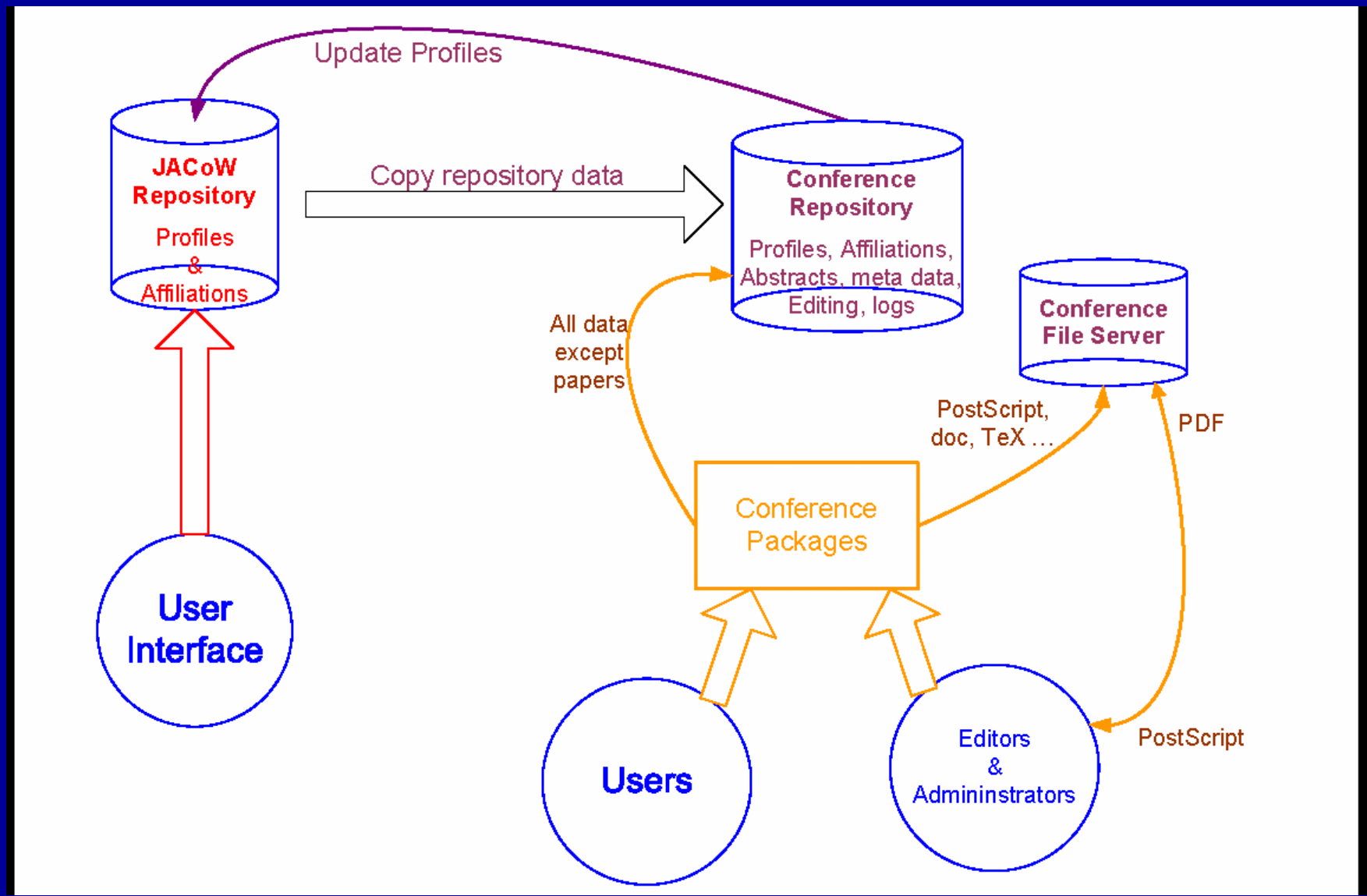
Database Workshop

- During a three day workshop in Berkeley one year ago, the team:
  - Defined the scope and an outline specification for a database system to be used by JACoW members, based on experience at EPAC and PAC.
  - Produced an outline functional specification for the system.
  - Analysed the information content.
  - Made some implementation decisions and plans.
- Since then, Matt Arena (FNAL) has been working on the basic system and Christine Petit-Jean-Genaz has prepared the institutes and profile data.
- Progress was reviewed at a meeting in Portland before PAC and there was a follow-up meeting in FNAL during August.

Scientific Programme Management System

- A central repository (Oracle based) containing personal profiles and affiliation (institutes) data.
- A set of web interfaces for users and administrators to manage the repository. Users set up an account (choose a username and password) which will be used to maintain their personal data and to identify themselves for a conference.
  - Each conference will use the repository data so that authors do not have to re-enter their personal data.
- A set of web interfaces for the submission of abstracts and papers
- A set of interfaces for conference administrators and editors.

Overview


Update Profiles
JACoW Repository
Profiles & Affiliations
Copy repository data
Conference Repository
Profiles, Affiliations, Abstracts, meta data, Editing, logs
All data except papers
Conference File Server
PostScript, doc, TeX ...
PDF
Conference Packages
User Interface
Users
Editors & Admininstrators
PostScript

JACoW Repository

- Institute database (600)
  - Names, acronyms, addresses etc.
- Profiles for authors/co-authors (3000)
  - Personal information like departments and local addresses, preferred name, Email address …

These have been populated from existing databases. Authors have been invited to set up their account and to verify the data. They are only able to update certain fields and other changes require intervention by the administrator.

Conference System

- Users must be registered in the JACoW repository
- First use is now, for EPAC'04 abstract submission (closes Feb 2004).
- The position within the programme of accepted contributions will be assigned (mostly automatically) by the system.
- Papers and associated meta-data will be uploaded through web interfaces.
- Editors will be automatically assigned papers for processing and all actions and comments will be logged.
- There will be automatic procedures for selecting keywords, generating indices and web pages.

Look to the Future

- Continuing expansion of the website with the additions from the PAC scanning project.
- DIPAC has almost finished an exercise to re-process the last conference (2001) so that JACoW can publish it and now they have nearly finished the proceedings from the 2003 as well.
- SPMS is already in pre-production for EPAC and should be delivered as a turn-key system early in 2004.
- The remainder of this week will be devoted to the annual team meeting where we will review the SPMS and discuss other technical issues.