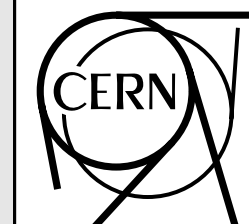


CERN COMPUTER NEWSLETTER



CERN - IT Division
CH-1211 Geneve 23
SWITZERLAND

July – December 2003

CERN-CNL-2003-003
Vol. XXXVIII, issue no 3

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Merry Christmas!

Happy 2004!

Editorial

Dear CNL readers,

After the past CNL, published before the summer, I received two questions from our readers. As I thought those questions could be of general interest I have introduced a new section in this CNL, called "Forum for Readers", where I have published the questions with their reply. With your help, I hope I will be able to keep this section active in the future: the purpose is to give the opportunity to all CNL readers to send comments or questions on some CNL articles, or more generally to raise issues of concern to you and our community. This is similar to, but more general than what we had in the past in the "Letters to the Editor" section.

I am happy to see an increased number of contributions to this CNL helping the Computing NewsLetter to play its role as one of the main channels to inform users about any changes and plans in computing areas. I feel certain that many users will appreciate, among other things, the article "Preparing CERN's Computer Centre for LHC" explaining the major construction work near building 513, the follow-up article on the DataGrid project, and the announcement of two new services provided by the NICE team: access to DFS files via the Web (WebDAV), and Windows Terminal Services for access to the NICE environment from non Windows platforms or from outside CERN.

In the near future, we will try to contact individually some of the CNL readers who are registered in the database to receive the paper version of the Computing NewsLetter, and ask them what they appreciate about CNL and what are the improvements they would like to see. If you have something to say on this topic, do not hesitate to contact me at CNL.Editor@cern.ch!

I hope you will enjoy reading this new issue, and, at this time of the year, I wish you a...



**MERRY
CHRISTMAS!**

... and all the best for a happy 2004!

Nicole Crémel, CNL Editor, IT/User Services



Forum for Readers

*This “Forum for Readers” is your chance to send comments or questions on some CNL articles, or more generally to sound off on issues of concern to you and our community.
Go ahead. Discuss what is important to you, and be heard!*

Please note: the editorial board reserves the right to omit or reproduce partially what is sent to this readers' forum.



Where the Web was born...

On Wed, 9 Jul 2003, Robert S. Williams, MD wrote:

I have a small question. I remember, back in the late 80's or early 90's being surprised to discover at CERN's Supercomputing center an interesting display. It was very slow, but was like a web browser except that it was entirely done online in ASCII text. It had pull down menus and offered hypertext documents for viewing.

What was that called? And, was that the program that evolved into Mosaic?

Regards, Robert S. Williams, MD

Dear Mr. Williams,

Indeed you might have seen at CERN in 1989 the program that evolved into Mosaic (and which made the Web so popular), when Tim Berners-Lee, then working at CERN, proposed a distributed information system for the Laboratory, based on 'hypertext'. You have some more information in a CERN Press Release article written in 1996, at the URL <http://cern.ch/PressOld/Releases96/PR02.96EWWWPrize.html>,

However I have sent your message to Robert Cailliau (who was working with Tim Berners-Lee, now at Massachusetts Institute of Technology), and I re-produce below his reply

Regards, Nicole Cremel, CNL Editor

Dear Dr. Williams,

I don't know what exactly you saw at CERN at that time. It certainly was not the first web system. The first web browser was made on a NeXT computer¹ and its display was certainly not slow. It was also not in what you refer to as "ASCII text" (by which I presume you mean plain, unstyled text) since even the very first browser had styles in it and in fact could display postscript graphics. It certainly had no pull-down menus since the NeXT menus worked differently (and menus also would be in conflict with the notion of a plain text display). In addition, the web system did not run in the computing center. The server was placed there, but the NeXTs on which we worked were in offices.

You were right though that at that time we did possess a supercomputer centre at CERN (a physics laboratory which only uses computers for data gathering and analysis) and it was often shown to visitors. What you saw then in the computer centre was probably some form of the line-mode browser, a crude and stripped version that was hastily developed in order to be easily portable to any other platform. To encourage people to explore web technology, we had made the line mode browser available as a remote client. That meant that from anywhere in the world, even without downloading it, you could use this text-only browser. But since it was running on our server and displaying its texts on the remote machine, it would have been slow in most cases.

Indeed, it was starting from this crude version that the Mosaic people developed their browser, without consulting and without ever having witnessed the NeXT browser/editor. Then the whole development of WWW went into a direction that was not as good as we had intended at CERN. It took about ten years to get some of the 1990 features back. All browsers following Mosaic and Netscape followed the same pattern: they were more like cloned viruses than like organised life, and showed an amazing degree of similarity with little originality. They implemented severely reduced versions of the original idea set, in frantic bids to conquer the market (one colleague at the time said there was a complete lack of serenity in web development). Because of this attitude, those browsers also spread like viruses: they were simpler and more vicious. The NeXT version quietly died.

¹NeXT as a company also died: it was bought by Apple, and its superior operating system/human interface now lives on in Mac OS X. Look at <http://www.channelu.com/NeXT/History/NeXTPub/N6030/page3.html> (a page which was obviously made afterwards, since the web was developed on the cube so the cube came first) [...]. The software programming system of the NeXT was without par, without it Tim Berners-Lee could not have made the web software in such a short time and with so many ideas implemented. This programming system was developed by Jean-Marie Hullot in Paris in 1986, originally to develop Macintosh programs.

The Web Consortium managed to keep some order. If you are interested in the full story of the Internet and the Web, there is a book written by James Gillies and myself (<http://www.oup.co.uk/isbn/0-19-286207-3>) which we tried to make as unbiased as possible, and from first-hand interactions with the pioneers.

Best regards,
Robert Cailliau,
CERN External Communications, Education & Technology Transfer Division
Treasurer IW3C2



About “Support Email Addresses” ...

Related to the article published in the last CNL at the URL <http://cern.ch/cnlart/2003/002/support-addresses>.

On Wed, 16 Jul 2003, Vittorio Frigo wrote:

Dear Nicole, Allow me to whisper a gripe into you ear: your article on support e-mail addresses fails to provide the only relevant point: a list of valid support e-mail addresses, and the topic they address. Amicalement,

*Vittorio Frigo
Directorate of Accelerators*

Dear Vittorio,

[...] It is nice to see that you read the Computer NewsLetter !

To answer your point, I must say this was not the purpose of my article, where I only intended to explain where addresses of the type “xxx.Support@cern.ch” are ending (technically speaking), and —depending on the answer—what are the consequences (e.g. when the address refers to a mailing list or to our Problem Tracking system). I agree that the first sentences in my article (in introduction) were not very good as they can indeed give a wrong expectation of what I wanted to write.

As for the relevant point, “a list of valid support e-mail addresses” is provided (and I try to update it for each CNL issue, see page 25, the section “If you need Help”). It is also available on the web, for instance for last CNL at the URL <http://cern.ch/cnlart/2003/002/HELP/>.

However please note the following—as written in the “support e-mail addresses” article—(and to simplify the life of the users):

When you do not know the email address of the IT service you need to contact, the recommendation is to send a mail to the “Computing Help Desk”, at Helpdesk@cern.ch (or phone 78888). Either the helpdesk team will be able to provide an immediate answer, or they will address the query to the appropriate service for you,...

This means that if you know a specific email address that corresponds to your problem (e.g., AFS.Support@cern.ch) then you can use it, but when you do not know the address, then simply use Helpdesk@cern.ch (and they will contact the appropriate service for you!) As the Service level agreement for the Helpdesk (during CERN working hours) is to assign cases in less than 30 minutes it should not make a big difference in response time whether you send a mail to the direct line (e.g., [AFS.Support](mailto:AFS.Support@cern.ch)) or to the helpdesk.

Thanks for your comment and I hope I answered it correctly.

Best regards,

Nicole Cremel (CNL Editor).



1. Announcements

This chapter contains announcements concrete in time and/or of informative nature from the division to the User Community.

1.1 The New IT Department

Wolfgang Von Rueden, IT Division Leader

The year 2004 will see one of the most fundamental and far-reaching reorganizations of CERN in its fifty year history. As part of the new, lean structure that Prof. Robert Aymar, the future DG of CERN, is proposing, the Directorate will be shrunk and fusions of fourteen divisions will lead to the formation of seven departments.

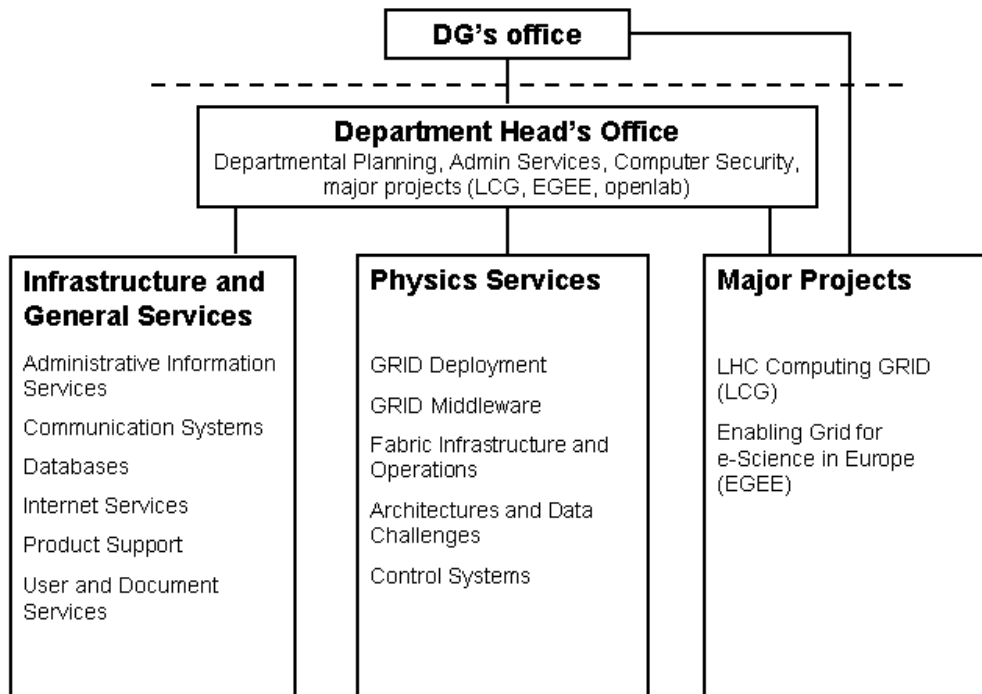
The IT Department will be the fusion of the IT division with most of AS division and one group from ETT. It will have a staff count of some 400 persons including major contributions from two externally funded Grid projects: LCG (co-funded by the member states) and EGEE (co-funded by the European Union).

The overall structure of the new Department is shown in the diagram below. Several groups represent mergers of similar activities in the previous divisions, which should produce

synergies and lead to long-term savings for all of CERN.

Of course, a reorganization of this scope is not simply a question of making a nice organigram and hoping for the best. The new group structure is the result of discussions involving all Group Leaders and Deputies directly concerned. The situation will be reviewed in due course and adjustments made as required.

There is no doubt that this represents a great opportunity to achieve a more coherent strategy for all IT activities at CERN. Also, a strong Department should be able to give better support to deploy Grid computing for the LHC, which is one of the great technical challenges of the LHC project. The challenges ahead should not be underestimated and 2004 promises to be yet another very exciting year for IT at CERN.



IT Department structure in 2004

More detailed information on the Department structure, mission and goals will be made available on the IT web site in January 2004.

1.2 IT Services Availability During CERN Annual Closure

IT Division, CERN

Available during the CERN annual closure:

Mail, Cern Windows (NICE), Web services, LXPLUS, LX-BATCH, Automated tape devices, Castor, Backups, software license servers, Sundev, CVS and Print Servers, CDS and Agenda-Maker, EDMS (in collaboration with EST Division), CMS disk servers, Campus Network, Remedy, Security and VPN services.

The physics database cluster, replication location service as well as accdb, cerndb and admsdb are the only databases available, CCDB will be closed for public access.

Problems developing on scheduled services should be addressed within about half a day except around Christmas Eve and Christmas Day (24 and 25th December) and New Year's Eve and New Years Day (31st December and 1st January).

All other services will be left running mostly unattended. No interruptions are scheduled but restoration of the service in

case of failure cannot be guaranteed.

Please note that the Helpdesk will be closed, that no file restores from backups will be possible and damaged tapes will not be processed.

An operator service will be maintained throughout and can be reached at extension 75011 or by Email to computer.operations@cern.ch where urgent problems will be addressed.

For Administrative Computing Services, the website, ERT (Electronic Recruitment Tool) will be the only service operational; all other AIS applications such as EDH, CET, HRT, etc., will be unavailable.

Please remember to shutdown and power off any equipment in your office which is not foreseen to be used during the annual closure.



1.3 Oracle Joins CERN Openlab

François Grey, IT/DI

CERN and Oracle Corporation announced in December that Oracle is joining the CERN openlab for DataGrid applications *"to collaborate in creating new grid computing technologies and exploring new computing and data management solutions far beyond today's Internet-based computing."*

The CERN openlab for DataGrid applications, which involves partners Oracle, Enterasys Networks, HP, IBM and Intel, will build and test prototype grid applications of increasing power and functionality. The open, collaborative environment of the partnership places an emphasis on a com-

mon development programme for data-intensive grid computing based on open standards.

Oracle is sponsoring 1.5 million euros over three years towards equipment and the funding of young research fellows, who will test Oracle(r) Database 10g within CERN's demanding environment.

For more information on CERN and openlab, see <http://www.cern.ch/openlab> or the recent review article in CERN Courier (<http://www.cerncourier.com/main/article/43/8/15>).



1.4 In Memoriam

Julius Zoll 1931 - 2003

We were saddened to learn that Julius Zoll had passed away during last Summer. As many of you know, Julius Zoll was an eminent figure in computing at CERN and many of his programs are still in use today. His friends and colleagues, Hansjörg Klein, Rudy Böck, Rene Brun, Jean-Pierre Porte, Werner Jank, Alan Norton, to mention only a few, have suggested to include in the Computer NewsLetter the article that was published in the Weekly Bulletin (31/2003) in memory of Julius Zoll.

One of the early pioneers of using computers for High Energy Physics has left us. Julius joined CERN from Cambridge University in 1964, at a time when bubble chambers were in their heyday, producing new exciting physics every month, generating the first large-scale international physics collaborations, and continually pushing the frontiers of data processing. He was a leading figure in the development of the programs that found their way from CERN into all the numerous laboratories, small and large, at which the photographs were analyzed, and this at a time when the terms "computer science" and "informatics" had not even been coined. Many of the ideas which he produced in those years were taken up and reshaped subsequently by computer professionals, many of them are still contained in active compo-

nents of CERN's program library, and some of his programs survive unchanged in other laboratories.

Not only a meticulous and untiring producer of software tools and totally committed to serving their users, he was also actively involved as a physicist in several experiments. Beyond work, he was an erudite lover of flowers and insects, and very literate in history. All those who came into contact with Julius held him in high esteem for his gentlemanly approach and his human warmth. We will miss him!

His many friends at CERN

On a personal note,

Before I came to CERN in 1988, being a doctoral student at LAPP in Annecy, Julius Zoll was one of the first CERN members I met. One of our tasks was to port his well-known software PATCHY on a new Unix workstation provided by a small French company. Julius did not hesitate to go to Annecy in order to help us achieve this task and explain the code he had written. This was our chance to meet the author in person who was very helpful and did not hesitate to share his knowledge with young students.

Nicole Cremel, CNL Editor.

Steve O'Neale 1948 - 2003

Shortly before the publication of this NewsLetter we learned with great sadness of the sudden death of Steve O'Neale on November 25th. The following are a few words about Steve written by his colleagues and friends in IT Division.

We would like to make this tribute to Steve O'Neale from his colleagues and friends in the IT Division which, when Steve started his involvement, would have been called the Data Handling Division (DD). His work as production manager for Opal and later with Atlas brought him into contact with many levels of the Division from technical to managerial. He gained a wide familiarity with the CERN Program

Library through his work and made valuable contributions to the code and organisation through contributing his ideas. This benefited us in the period when LEP computing was running down and that for LHC building up when he joined the Cernlib team to work as assistant librarian and, in particular, build the library on the Opal computing platforms. He understood very well the difficulties that experiments were having in their run down phase as the community switched to new programming languages. He volunteered himself to help with continuity for both Opal and other experiments. Until last week he was working closely with us to extend the useful life of one of the bookkeeping packages used by LEP and fixed target experiments.

He also made a major contribution to LHC computing when he joined the team testing the Geant4 Monte-Carlo package and applied his wide experience of experiment requirements and real life computing and his practical no-nonsense approach to this work.

In his various roles Steve experienced almost every service IT offered over the years. Many times he would rather say he suffered from one of our services but there was always a glint of humour in his eye and a genuine issue behind. He would not, however, just criticise—he would give you as much evidence as he could to demonstrate what was happening, how it affected the work of his experiment or the user community in general and give his ideas, often several, on how to improve. This covered issues from the day-to-day to strategic, and Steve was an energetic member of some of the committees which performed vital liaison roles between the physics experiments and the IT management notably the computer resource allocation committee, cocotime, and the Forum for computer users, Focus. Steve always found something relevant to say at Focus meetings though he would sometimes admit quite cheerfully that he was stirring something up because it needed stirring up!

In all of his relations with IT Steve had a practical approach motivated by the needs of physics computing and always with complete honesty and openness. He was always full of energy, drive and enthusiasm and we enjoyed and appreciated working with him.

His colleagues and friends in IT Division.



2. Physics Computing

Functional description of all the Central Public Services, specifically oriented to use by the Research sector, either for interactive (central and CPU intensive) or batch processing. The main physics-computing services consist of providing computer farms, central data recording facilities and central data storage facilities. We also include in this chapter articles on Scientific Software, such as DataGrid related information, or software for the physics experiments.

2.1 New Exhibitions in Microcosm and the New Grid Café Website

Emma Sanders, ETT/EC

The search for answers to the mysteries of modern physics pushes the advance of technologies. One of Microcosm's two new exhibitions, opening in December, retraces part of the history of computing at CERN, a domain where the laboratory has certainly been at the forefront of new techniques.

Objects take the visitor on a trip back down memory lane : be it the first ever web server, the first emulators, or indeed a piece of one of CERN's last giant mainframe computers, which heated up so much, it had to be cooled by liquid nitrogen. The evolution of technology is shown hand in hand with the advancement of physics research - new detection techniques needing new tools for data analysis, transmission and storage.

On a lighter note, discover the first computer disks from the 60's with their storage capacity equivalent to just 4 thousandths of a second of music on today's CDs. And younger visitors may also be astonished to find out that 40 years ago, computer programmes were written by punching small holes in paper cards.

With the LHC on the horizon, the laboratory's computing needs are even greater and today many eyes are turned to the GRID - a way of sharing computing resources and also data storage across the Internet. In Microcosm, visitors will be able to find out more about the GRID and even send a job to the GRID testbed from the Grid Café, an industry-sponsored display with four terminals that allow visitors to connect, amongst other things, to the new Grid Café website created by IT (<http://www.gridcafe.org>)

Meanwhile, the Microcosm team is still collecting your old CDs to build a huge pile which will give an idea of the enormous data storage capacity needed for LHC experiments.

Thanks to all those who have donated CDs already... It is not too late to send more! (Please send them to Delphine Dalencon 33-R-014.)

The second exhibition concerns the mysteries of the Universe. Ever wondered why the Universe is habitable? How many dimensions there are? Or indeed, where does matter come from? In Microcosm's new "mysteries of the universe" exhibition, 20 CERN researchers reveal the question that intrigues them the most and why they find the search for answers so fascinating.

The exhibition consists of 20 stories, told by the researchers themselves in one of 4 languages (English, French, German or Italian). Through their tales, one discovers the essence of CERN - a curiosity to understand the mechanisms of a universe full of surprises, where many fundamental questions remain unresolved.

With their diverse nationalities and experience, the participants reveal not only the variety of physics research underway at CERN, but also the experiments yet to come and indeed an element of the international collaboration so essential to the laboratory.

In the words of one of the participants, "*scientists confronting the Universe are like detectives confronting a murder mystery : to solve it, we shall need all the tools we have at our disposal, and then some.*"

Voice coaches from local theaters worked with the researchers to prepare the recordings and, in time, the exhibition will also become a booklet + cd available for teachers wanting to give a flavour of contemporary physics research to their students.



2.2 Preparing CERN's Computer Centre for LHC

Tony Cass, IT/FIO

Introduction

Nobody who has recently been to the Computer Centre, eaten at Restaurant 2 or driven up Route Gregory can have missed the evidence of major construction work near B513 - not least because of the lack of parking! This work is not in the LHC tunnel league, true, but it is yet more evidence that the prepa-

rations for LHC extend across many areas of CERN's activity. The construction work is for a new substation for the computer centre, but this is only the most visible part of an overall project to upgrade B513 to meet the challenges of LHC computing - a project that dates back to 1999.

By mid-1999 it was evident that the computer centre infrastructure could not meet the power and space requirements

of the offline computing farms for the LHC experiments. At that time, LHC start-up was scheduled for 2006 and the farms were expected to occupy around 2,000 m² and to need an electrical supply of 2MW. All the computer centre could offer was a machine room of 1,500 m² and an infrastructure to support an equipment load of 500kW. After an initial review of the 30-year old B513 infrastructure, visits to other computer centres and working with a computer centre consultancy, a plan was developed to increase the available floor area by redeveloping the tape vault, provide a new substation to upgrade the available power to 2.5MW, and upgrade the electrical distribution and air conditioning capacity in the existing machine room. Since then, the start date of LHC has been confirmed for April 2007 and, thanks to Moore's Law, fewer computers will be needed to provide the computing power needed by the LHC experiments. Unfortunately, our experience with PCs over the past few years shows that the electrical consumption is not a constant per PC, but grows with the computing power. The PCs we install today, for example, have a power consumption of nearly 200W compared to 100W for PCs installed in 1999. Overall, then, we still plan for an active equipment load of up to 2.5MW in 2008, the first year of LHC operation at full luminosity.

Keeping Services Running

Upgrading the Computer Centre is not just a question of providing the raw electrical power, though. Today, computing touches all aspects of daily work at CERN. Few people can work for long without access to Email, the Web, or EDH. LHC operation will also depend on the network infrastructure and databases in B513. Keeping critical services running is therefore a major concern - especially as it can take many hours to restore all our services if power is lost.

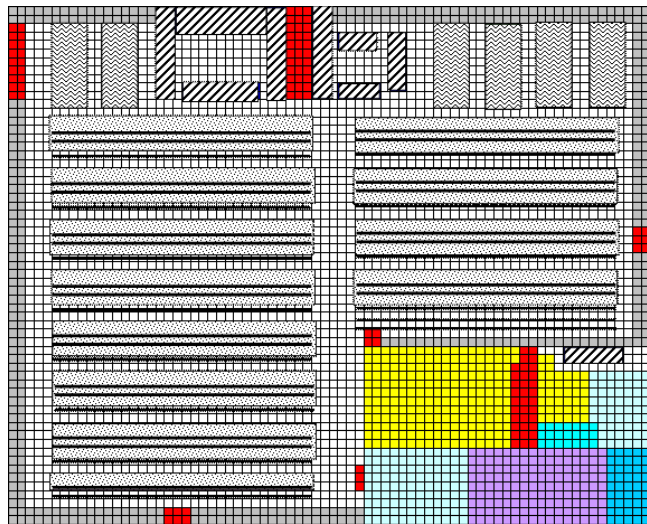


Figure 1: Future machine room layout indicating physics equipment areas (dots) and associated electrical supply (black lines) together with the areas for critical equipment (wavy lines) and networking equipment (hatched).

Special areas have been set aside in the upgraded machine room, and in the vault, for the equipment that supports these services. These areas will have dual redundant power sup-

plies, one of which will be supplied by CERN's diesel generators if both the French and Swiss electrical supplies are unavailable (see Figure 1).

Keeping the power available is not our only worry when we think about keeping services running. Imagine over 1,200 2kW radiators running full blast and you can see that keeping the air conditioning running is essential. If this were to fail the computers would be sweltering in sauna-like temperatures within 15 minutes! Eliminating all of the potential single points of failure has thus been an important part of planning for the future.

Digging for Power

And this brings us back to the construction work outside B513. All the electrical equipment - such as transformers, switch boards, uninterruptible power supplies and their batteries - takes up a lot of space. With extra space needed for computing equipment, there was no room inside B513. Fortunately, the transformers that power the computer centre today are in the basement on the Restaurant 2 side of the building and, by putting the new building under the car park, we can keep all of the electrical equipment together. This has helped to reduce the overall costs by keeping the cable lengths as short as possible - lots and lots of cables are needed (see Figures 2 and 3)!

The civil engineering work for the bunker under the car park started in mid-August. With the base, walls and now the top solidly in place, this work is well on schedule for completion by the end of February 2004. At that stage ST/EL will take over and install all their equipment before the end of accelerator operations in 2004. Only then can we start to connect the new transformers to the site-wide 18 kV supply. Commissioning is expected for February 2005 - not a moment too soon as the equipment needed to support the many LHC data challenges is already straining the current electrical supply to the very limits.

And the Machine Room?

Upgrading the machine room is easier said than done, given that CERN's computer users expect services to be kept running round the clock and all year long. Fortunately, the extra space created in the former tape vault in the basement of B513 has enabled a rolling upgrade. Equipment from one half of the machine room was moved to the vault in spring this year allowing easy access to the false floor. Since then some 15 km of obsolete cables have been removed and new network cabling and fibers installed. Work on the electrical distribution system started early in September together with the first stages of the air conditioning upgrade (Figure 4). Once all of this work is completed early next year it will be time for another equipment migration to free up the other half of the machine room for an upgrade.

The overall timeline for all of these moves, and the rest of the upgrade, is shown in Figure 5. Shown like this everything seems simple, but much behind-the-scenes work is necessary to keep services running as we prepare for LHC.



Figure 2: Two views of the Computer Centre as it used to be ...



Figure 3: ... and the same views with the new substation and transformers in place.



Figure 4: The machine room in early April and as it is now

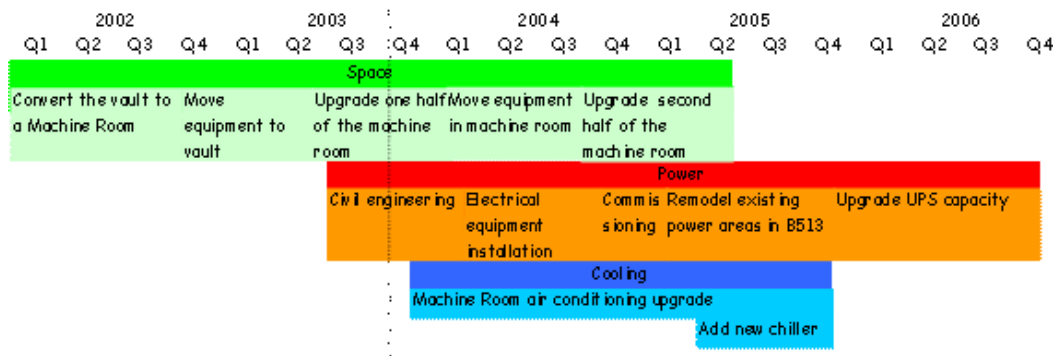


Figure 5: Timeline for the computer centre upgrade

So, if you have problems parking as you have lunch at Restaurant 2, relax: your troubles are nearly at an end. But take a moment to look down on the computer centre from the first-floor visitor's gallery and spare a thought for the teams from IT and ST behind all of this. We have another two years

of work ahead of us. Rest assured, though, the computer centre will be ready and waiting on schedule to welcome the first of the computing systems for LHC from early 2006—and to face up to the computing challenges of the next 30 years.



2.3 DataGrid Toward its Final Run

DataGrid Project Office, CERN

Time has come for the DataGrid project to wrap-up the results of its intense three years of activity. The project will complete its activity at the beginning of 2004 with the final EU review planned for the end of February.

In the last several months, the project has continued its close collaboration with LCG, optimizing the grid middleware software which is now the basis of the current LCG1 production infrastructure. With it, many physicists around the world are producing important simulated data for their detector studies.

In parallel, an intensive activity of training and education has continued with the DataGrid tutorials, developed by the project and aimed at users wishing to get a practical introduction to grids and "gridify" their applications. After having traveled to several institutions in the project member states during the year, the session held in October exploited the true international spirit of EDG, being performed in Islamabad, Pakistan, at the National Center for Physics. About 40 physicists and computing scientists took part in the event, the first of this kind to be held in the country and which was reported on national TV news.

In September 2003 the DataGrid project held its last Conference in Heidelberg, hosted by the Kirchhoff Institute of Physics. More than 150 participants participated in the event, coming from all partner institutions. The main topic of discussion was the plan for a successful conclusion of EDG: more than 25 deliverables and final reports will have to be submitted to the EU commission by the end of the year, containing the detailed description of these last months of activities and statements about the ultimate achievements of the projects.

The conference featured several invited talks on the status of collaborating projects, such as CrossGrid, GridLab, Globus and VDT. Together with the local organizers, an "open day" was organized entitled "*Towards a German Grid Initiative*", dedicated to the local and national audience and meant to publicize and cluster German Grid activities.

Another interesting topic of discussion during the conference was the preparation of a smooth transition between EDG and the newborn EGEE project. In the last few months many of the participants in EDG have collaborated in the submission of the proposal for a new EU project in the context of the EC Sixth Framework Programme.

The goal of the proposed EGEE (Enabling Grids for E-science in Europe) is to create a European wide "production quality" infrastructure on top of the present (and future) EU RN infrastructures. Such a grid would provide distributed European research communities with "round-the-clock" access to major computing resources, independent of geographic location. Compared to EDG, EGEE would represent a change of emphasis from grid development to grid deployment; many application domains would be supported with one large-scale infrastructure that will attract new resources over time.

The final negotiations are being completed with the EU so that the project can be formally approved and start on April 1st 2004.

For more information on the DataGRID project see the website: <http://www.eu-datagrid.org>.

For more information on the EGEE project see: <http://www.eu-egee.org>.

2.4 HEPiX-HEPNT - TRIUMF, Vancouver (October 2003)

Alan Silverman, IT/PS (with help from Helge Meinhard and others)

Abstract

This article is intended to give a global picture of the last HEPiX-HEPNT meeting which took place at TRIUMF, Vancouver, in October 2003. We apologize for the fact that, due to the number of talks and the quite high level technically, this summary looks more like a series of bullets which covers only some of the most important points. A complete and detailed "Trip Report" is available at: <http://www.triumf.ca/hepix2003/pres/24-03/summary/summary.pdf>.

Highlights

- High attendance for a meeting in North America - the attraction of Vancouver as a site and security as a subject were cited as possible reasons, as well as the increasing visibility of HEPiX
- Excellent organisation
- Redhat discussions: although the Redhat speaker did not tell us anything new (and several attendees expressed disappointment that he did not announce the solution to our current problem), he did impress some of us with his sense of commitment to finding a solution for the current support situation. It seems clear that Redhat themselves are still working through the ramifications of their new release policy. [And discussions continue by e-mail since the meeting.]
- The internal discussion on Redhat the following day seemed to confirm that the negotiations being undertaken by SLAC, FNAL and CERN as representatives of the wider HEP community are supported (although not all sites were represented by decision makers)
- First (?) appearance of vendor exhibits at HEPiX plus talks from commercial vendors (especially Redhat and Microsoft).
- Sharing of code among HEP sites (CERN's print manager in use in LAL; SLAC's console management tool being adopted by CERN via a collaboration; SLAC's monitoring tool used in DESY Zeuthen; etc)
- A very interactive Large Security SIG all-day session on the topic of Security. The security officers of all the major sites were present and the atmosphere often was more of an interactive workshop.
- The forming of a forum for Mass Storage Systems' interoperability.

Site Reports

As usual the meeting started with site reports from all the different laboratories. Various HEP institutes have reported on their internal solution and implementation regarding:

- Central and distributed computing: Unix is represented with Linux and Solaris. For Linux both Red

Hat (different versions) and SuSE (at DESY) are implemented. For desktop computing migration to Windows XP has been done, or is being done in most sites,

- Batch services,
- Backup, disk storage and mass storage,
- Central mail services (including problems with spam) - most of the laboratories are using central Exchange servers,
- Security,
- Grid activities: LCG integration, test bed for EDG, etc.

Specific points that have been raised by the laboratories in their respective site report, in no particular order:

- Oxford University Particle Physics: plans are to continue network security and reduce number of Operating Systems. Problems are the choice for laptops and Red Hat version.
- IN2P3: There are no on-site users, no accelerators or experiments. All resources are shared and common, except for a small dedicated grid testbed for software development.
- SLAC: BaBar experiment has resumed data taking in September. This was seen as a good startup at high rates. They are converting to a new computing model: Babar events are stored in Root, but conditions and some metadata are still based on Objectivity.
- Triumf/UBC is the first HEP site to install a large blade cluster (WestGrid). They are involved in the 10 Gbps link to CERN and achieved 5.5 Gbps sustained.
- LAL: an important issue they have to address is about home machines connecting to the Lab, despite the instructions that are provided.
- RAL: they have a new helpdesk, replacing Remedy by Request Tracker. Outstanding issues are many new developments and services, P4 Xeon experience giving poor performance, and the Red Hat support policy.
- GSI: AIX and Windows servers (mail, DHCP, DNS) are being migrated to Linux.
- BNL: Their future plans are the expansion of the Linux farm, more scalable solutions for file serving (Panasys, dCache), and to provide grid services (US Atlas Grid Testbed).
- DESY: Linux will be based on SuSE (mainly on user demand): new setup routines are being prepared, and new central software distribution concept will be defined (no longer AFS based). For future releases, they are considering Debian as well. Grid activities: centrally supported pool (EDG 1.4) for all Hera groups, based on SuSE (all tools ported). DESY is a cooperating member of EGEE, and a founding member of dGrid.
- Jefferson Lab: future plans are standard windows builds (server, IIS server, desktop, laptop), backup migration to Reliaty, ssh v2 study. They will continue de-

velopment for JASMine (batch farm management and monitoring).

- NIKHEF: they have phased out HP, SGI, and SuSE (keeping only Solaris and Red Hat Linux). Some parts of the network infrastructure in the Computer Center have been migrated to Gigabit Ethernet. They provide a development and application testbed for EDG (140 nodes, 5 TB), contributing to data challenges of D0 and LHC experiments. They will be involved in LCG and EGEE.

Presentations

More specific presentations were given on:

- Castor evolution at CERN (by Jean-Damien Durand),
- First experience with Windows Terminal Services at CERN (by Alberto Pace),
- New fabric management tools in production at CERN (by Thorsten Kleinwort),
- Mail service at GSI (by Karin Miers),
- CVS status and tools at CERN (by Sebastian Lopien-ski),
- CERN's Solaris Service Update (porting of EDG WP4 Quattor to Solaris and status of SUNDEV),
- APT for RPM - Simplified Package Management (tool used by INFN Napoli for installing their Redhat systems),
- PDSF Host Database Project (for inventory management and tracking),
- CERN's Console Management Infrastructure (by Helge Meinhard),
- Debian at GSI (with a comparison with Redhat and SuSE releases of Linux),
- Web-Based File Systems and Webdav (HTTP protocol extension for file access via the web),
- Delegating NIS Group Administration (by Alf Wachsmann, SLAC's system administrator),
- Exchange Deployment and Spam Fighting at CERN (by Alberto Pace),
- Spam Fighting at TRIUMF,
- Redhat Linux (Don Langley, Redhat sales manager covering California including SLAC, was invited to discuss the situation around Redhat),
- AFS Cross-Cell Authentication Using Kerberos 5 (at INFN),
- ADC Tests (various "research activities" going on inside IT/ADC group at CERN in view of the approaching LHC, including the CERN openlab initiative and the opencluster),
- Redhat Linux Support Policy (interactive session on reactions to and consequences of the new Redhat support policy),
- New HEPiX Scripts,

- TiBS - AFS Backup at FNAL,
- TRIUMF Computing Services,
- LCG-1 Status and Deployment,
- LCG Overview and Scaling Challenge,
- Windows Server Hardware Management at DESY,
- Windows and UNIX Interoperability (talk by Microsoft on tips and tricks to make Windows and UNIX work together),
- CERN Print Manager Abroad,
- Panasas's Object-Based Storage (Scalable Bandwidth for Clusters),

Security

One day of the meeting was devoted to "Security". Bob Cowles of SLAC started the sessions organised under the banner of the Large System SIG of HEPiX by reviewing recent security "events". He began by showing the effect on network traffic of the Slammer attack and how prompt remedial action had prevented a much worse problem. But it did show how little system patching goes on. As seen in CERN and elsewhere, he described how the infections arrived in SLAC (VPN, DHCP, etc) and the steps taken to "encourage" users to patch their systems. Afterwards, various presentations were made on:

- CERN's Reactions to Recent Attacks,
- Opportunities for Collective Incident Response,
- LCG Security Update,
- Security Components on CERN Farm Nodes,
- Root Kit Detection Tools (from NERSC/PDSF),
- PKI Tutorial,
- CERN's Computer Security Challenge,
- Security Update from KEK,
- Cluster Security at SLAC,
- A Walk Through a Grid Security Incident.

Parallel Sessions (and Workshops)

The last day consisted of 3 parallel sessions:

1. Windows Birds of a Feather, leading to discussions on patch distribution on Windows (using SMS, SUS and group policies) and the SLAC password synchronization project between Unix/Windows.
2. a discussion on how to further the security team collaboration ideas proposed by Matt Crawford of FNAL for a possible collaboration in fighting security attacks.
3. a video-conference on mass storage with participation remotely from amongst others FNAL and RAL. The objective was to prepare a fuller program of mass storage presentations as the theme of the next Large System SIG day at the Edinburgh HEPiX.



3. Desktop Computing

Description and news concerning the CERN desktop environment centrally provided on UNIX and NICE/PCs (Windows-95, -NT or -2000), and providing the "general-purpose computing" environment. It consists of the hardware, software strategy, and services for the basic applications, which one expects to be generally available on desktops. This environment presents the basic computing infrastructure of the laboratory.

3.1 Computer Security Changes: Recent and Planned

Denise Heagerty, IT/DI

Abstract

The following security changes are being implemented: Off-site FTP closure, Off-site X11 protections, and AFS password expiry.

Off-Site FTP Closure

To reduce the number of regular break-ins on CERN machines due to passwords exposed on the network in clear text, **off-site FTP access to CERN will be blocked** in the CERN firewall from

Tuesday 20th January 2004

Users are recommended to install and use SSH (Secure SHell) as an alternative to ftp as soon as possible for off and on site access. Links to further details about SSH and other alternatives are at <http://cern.ch/security/ftp>.

Off-site X11 Firewall Protections

Following some serious incidents, X11 firewall protection, which already covered most CERN systems, was extended to the whole site from *Tuesday 4th November 2003*. All CERN systems running X displays (such as X terminals or Exceed) must start off-site X applications securely, as described at: <http://cern.ch/security/X11>.

AFS Password Expiry Enforcement

To ensure that passwords are regularly changed, annual password expiry will be enforced for AFS users. Warning messages will be sent by email and users will be required to change their passwords using the command `kpasswd`. This mechanism is already in place for NICE passwords. Recommendations for choosing good passwords are at <http://cern.ch/security/passwords>.



3.2 Access the Windows DFS Using the Web and WebDAV

Alexandre Lossent, IT/IS

The Windows DFS (Distributed File System) is the network file system for the NICE environment. It hosts applications, home directories and workspaces for projects and divisions; it consists of about 150 shared folders distributed on more than 20 servers and aggregated into one single, distributed folder tree. The DFS is available from Windows computers using the UNC path `\\cern.ch\dfs` or the G: drive on NICE computers. It relies on the CIFS protocol, an evolution of the SMB protocol.

Previously, access to the DFS was difficult from non-Windows platforms: most clients can connect directly to a Windows shared folder on a specific server, however they typically do not support the protocol extensions that allow the DFS to be distributed on several servers. As a result, such clients can access every part of the DFS but not the DFS as a whole. Moreover, accessing the DFS from outside CERN required the use of a VPN connection (see <http://cern.ch/vpn> for more information). To address these issues, a web-based interface and a WebDAV gateway have been set up.

Web-based access to the DFS

The web access to the DFS (<https://dfs.cern.ch>) provides a complete file management interface for the DFS. It makes it possible to download and upload files from and to the DFS, manipulate them and manage permissions from any *Javascript-enabled* browser. Access from outside the CERN Intranet is possible provided HTTPS is used. You will have to authenticate with your NICE user name and password.

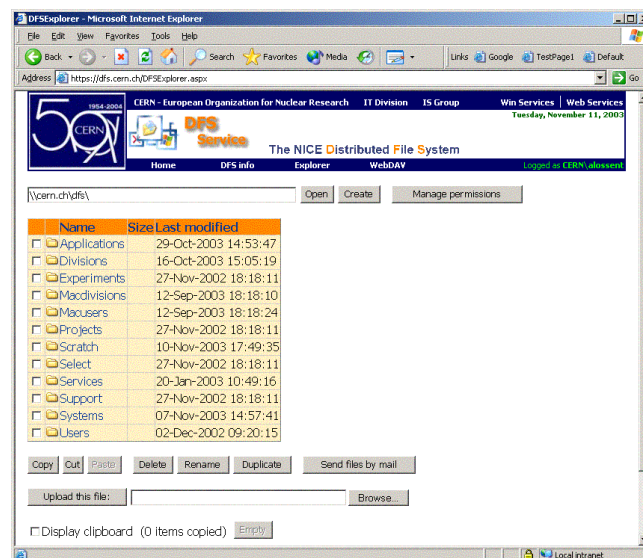
WebDAV access to the DFS

WebDAV is a standardized protocol that extends HTTP/1.1 with file management functionality. It is possible to use this protocol as a replacement for FTP, and even as a low-end network file system. Tools and libraries exist on all major platforms to access WebDAV resources with a FTP-like client or mount a WebDAV resource in the local file system (or as a drive letter in the Windows world). Information about WebDAV and open-source clients and libraries is available at the URL <http://www.webdav.org>.

A WebDAV gateway to the DFS is available world-wide from <https://dfs.cern.ch/dfs> with a NICE username and password. Some WebDAV clients (Mac OS X, Windows XP if Office is not installed...) do not support encryption and need to use <http://dfs.cern.ch/dfs> instead, but the unencrypted access is restricted to the CERN Intranet and the VPN connections.

More information about the DFS

Users are invited to visit the DFS web site (<https://dfs.cern.ch>) for more information on accessing the Windows DFS from non-Windows platforms or from outside CERN.



Web access to the DFS



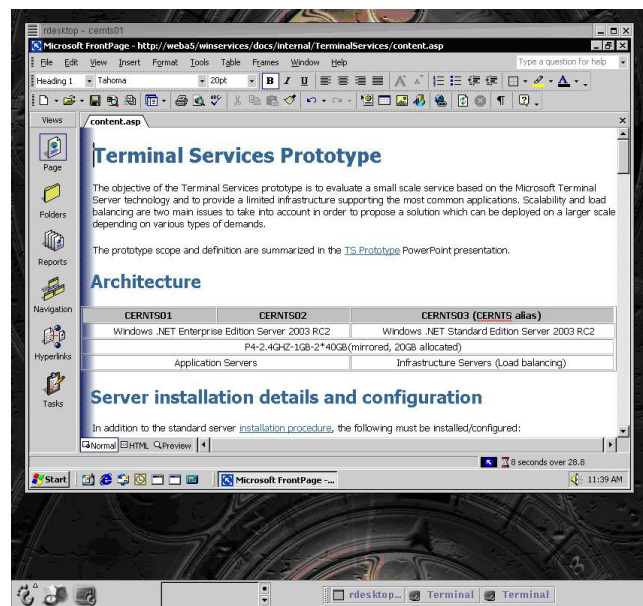
3.3 CERN Windows Terminal Services

Ivan Deloose, IT/IS

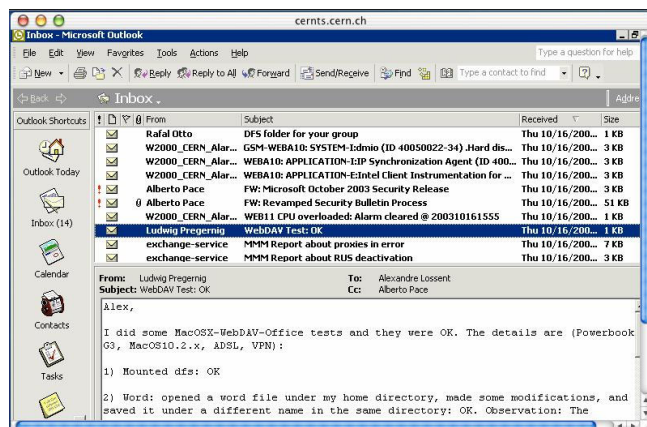
In the spring of 2003, it was decided to launch a Terminal Services prototype to measure the interest of users in having access to the NICE environment from non Windows platforms or from outside CERN.

The CERN Windows Terminal Services offers a limited access to Windows-based applications from platforms such as Linux, MAC and all Windows versions via a remote session. There are native clients available for Linux, Mac OS X and all Windows platforms capable of running Internet Explorer 4 or higher.

The server architecture consists of 2 applications servers, providing a set of basic applications. A third machine acts as a load balancing server.



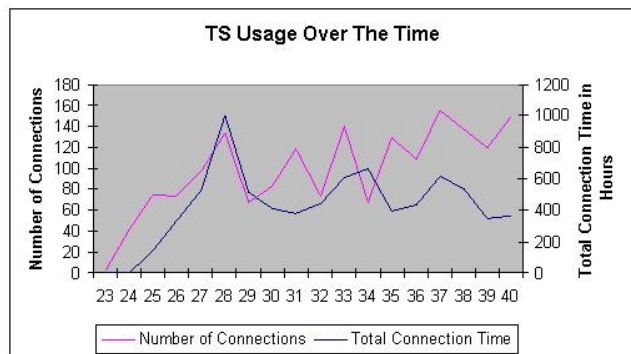
A screen shot from Linux



A screen shot from Macintosh

After a limited success in the beginning, an increasing number of users registered via the Web site and tried out the prototype. Usage statistics show that more than 220 different persons have been using the pilot with a total connection time of 7721 hours between June and September (17 weeks) this year. We registered 1782 connections during that period which gives an average load of about 15 connections per day.

The following graph represents the number of connections per week:



Given the successful result of the prototype, it was proposed to start a service during 2004. This was discussed at the Desktop Forum of November 2003, and it was agreed to start a small scale service next year.

The applications provided by the new service will be:

- Microsoft Office with Frontpage
- Adobe Acrobat, Distiller, PDFMaker, Adobe PostScript Printer Driver

- Putty / SSH
- CERN Client Printing Package
- CERN Phonebook
- Zephyr
- Symantec Antivirus Client

And, if some technical problems can be solved, also:

- AFS client
- Microsoft Project

In addition to a standard service there was a growing demand for specific needs, especially in the physics and controls area. After the new service has been deployed, it will also be possible to install additional application servers providing specific applications under the responsibility of service providers. The range of these applications goes from the JavaVM with Java based applications in controls to Compilers and development tools for experiments and engineering applications.

More information on the CERN Windows Terminal Services project is available at <http://cern.ch/wts>.



4. Internet Services and Network

Everything related to Internet in a large sense: i.e., network issues and performances, all technical Web issues, electronic mail, Internet news, home access to CERN facilities, video conferencing and multi-media, network security, etc.

4.1 Update on Spam and Computer Security (presented to the Management Board)

Abstract

This article is an extract from the official news published in the Weekly Bulletin (no 38/2003), after the Management Board meeting of 28th August 2003. It relates the measures being taken to fight against two major IT problems which are spam mails and security risks.

Update on Spam

W. von Rüden, Leader of the IT Division, reported on the growing problem of unsolicited junk e-mail or "spam" and the measures being taken to deal with it. Pointing out that spam presently accounted for around 37% of all e-mail in Europe and a massive 74% in the United States, he underlined the associated costs for the companies and organisations concerned. Having reviewed the anti-spam products available commercially and concluded that they were not yet sufficiently accurate to meet CERN's requirements, the IT Division had developed its own anti-spam filter, which had been running for a year and demanded little manpower now that the initial development and test phase was over. The filter worked by analysing incoming mail, calculating the probability of its being spam and moving messages identified as such to a special folder; users were able to select the probability threshold at which they wished messages to be rejected and were encouraged to check the folder occasionally for any incorrectly identified messages before deleting its contents. Although the system was proving quite efficient, with only a small fraction of spam mail slipping through the filter into users' inboxes, new techniques were regularly tested and evaluated with a view to improving it. Pending the availability of an effective commercial product with a central anti-spam configuration and live update feature, the key to the fight against spam lay in joining forces with other organisations in order to enlarge the database of statistics and patterns on which the filter was based.

Update on Computer Security

W. von Rüden then reported on the issue of computer security. He noted that, although attacks by computer worms and

viruses were by no means a new phenomenon, they were becoming increasingly sophisticated and destructive, causing untold problems for businesses, organisations and individual users throughout the world. Outlining the actions taken by IT Division in response to the latest case, known as the Blaster Worm, he explained that an urgent security patch had been applied rapidly to all centrally managed PCs (5200) and that owners of other machines had been requested to ensure that it was installed but that, in spite of repeated reminders, some 200 Windows systems had remained vulnerable; to avoid the risk of such systems launching attacks themselves and bringing down all or part of the network, they had had to be disconnected. Given that many insecure machines were connecting from home via ACB (Automatic Call Back) or VPN (Virtual Private Network), access to the CERN intranet via those systems had also been restricted temporarily.

Pointing out that the essential problem lay in the more than 500 individually managed machines on the CERN network, for which the security team had no means of enforcing patches or other means of virus protection, he listed a number of ways of avoiding difficulties in the future. For example, divisions were urged to move as many machines as possible to the centrally managed service, appoint persons who could be contacted in the event of security alerts, ensure that those in charge of machines were able to apply patches, and make sure that the network database was updated whenever computers moved or changed owner. It was also proposed to enforce hardware address registration for all on-site computers using DHCP, including those of short-term visitors, establish a quick response procedure for dealing with future emergencies and, given the significant security threat posed by the ACB service, move towards Internet Service Providers with whom special conditions could be negotiated.

The Management Board endorsed the above proposals and thanked the IT security team and all those involved for their efficient handling of the latest virus attacks, which had enabled CERN to work virtually as normal while many other sites had been completely disabled.



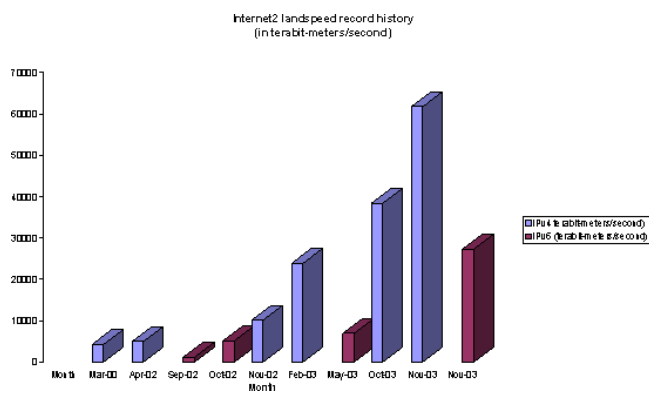
4.2 New Internet2 Landspeed Record Established by a Caltech-CERN Team

Olivier Martin, IT/CS

A new Internet2 Landspeed Record (I2LSR) has been established by a Caltech-CERN [1] team on October 1 in the framework of the EU DataTAG [2] project. The award ceremony took place during the Telecom World 2003 exhibition live from the Internet2 fall member meeting in Indianapolis. The team transferred over a Terabyte of data across 7,000 km of network at 5.44 gigabits per second (Gbps), thus smashing the old record of 2.38 Gbps achieved in February 2003 between CERN in Geneva and Sunnyvale in California by a Caltech, CERN, Los Alamos National Laboratory and Stanford Linear Accelerator Center team. This corresponds to the transfer of one 680MB CD in one second.

Internet2 Landspeed Record Contest

In order to stimulate research & experimentation in the TCP transport area, the Internet2 project created a contest for IPv4 as well as IPv6 (next generation Internet) and for single streams as well as multiple streams. The resulting Internet2 landspeed record (I2LSR) has already been beaten several times by teams closely associated with DataTAG.



I2LSR evolution (terabit-meters/second metrics)

I2LSR Contest Rules

"A data transfer must run for a minimum of 10 continuous minutes over a minimum terrestrial distance of 100 kilometers with a minimum of two router hops in each direction between the source node and the destination node across one of more operational and production-oriented high-performance research and education networks... The winner in each Class will be whichever submitter is judged to have met all rules and whose results yield the largest value of the product of the achieved bandwidth (bits/second) multiplied by the sum of the terrestrial distances between each router location starting from the source node location and ending at the destination node location, using the shortest distance of the Earth's circumference measured in meters between each pair of locations."

The contest unit of measurement is thus bit-meters/second which was a very wise and fair decision as the complexity

of achieving high throughput with standard TCP transport is indeed proportional to the distance.

High Performance Transport

TCP/IP's congestion avoidance algorithms, also known under the names "Slow Start" and "AIMD (Additive Increase Multiple Decrease)" have only undergone relatively minor changes since their inception back in 1988 by Van Jacobson. Although extensive analytic simulations have been done using the NS & NS2 tools in order to establish the fairness of TCP under a number of operating conditions, most of these studies unfortunately neglected the emerging very high speed, i.e. greater than 1 Gbps, long distance, i.e. over 10'000 km, networks. As a result, proper operation of TCP over long distance and high bandwidth networks has been somewhat overlooked, especially as tools like GridFTP in the Grid community, offered convenient ways to circumvent the problem by making use of multiple parallel streams instead of a single stream. However, contrary to a common belief, TCP is only fair between flows having similar characteristics such as packet size, round trip time and bandwidth and the effect of a single packet loss on high throughput long distance flows is absolutely catastrophic.

For example, the size of the TCP window required to achieve 10 Gb/s performance over a 10 Gb/s circuit with a round trip time of 170ms (e.g. Geneva to Los Angeles) is greater than 200 Mbytes. This translates to over 140'000 1500 bytes packets "in flight" between the sender and the receiver, and the effect of a single packet loss is to reduce the throughput to an average of 7.5 Gb/s during approximately 7 hours!

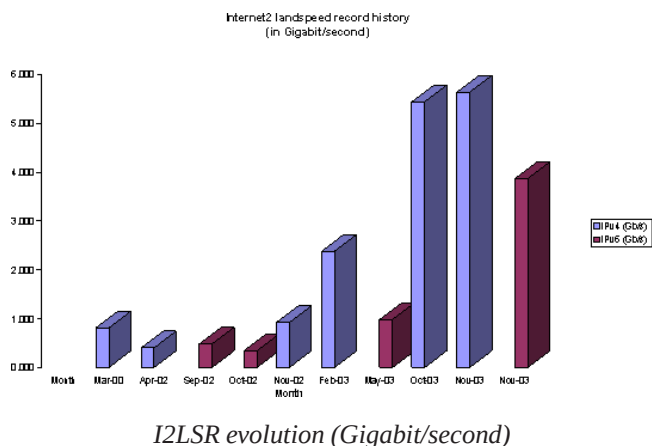
Latest IPv4 & IPv6 I2LSR records

The IPv4 record, established on February 27th-28th 2003 by a team from Caltech, CERN, LANL and SLAC with a single 2.38 Gbps stream over a 10'000 km path between Geneva and Sunnyvale through Chicago, has been entered in the Science and Technology section of the Guinness book of records. A new IPv6 record was established on May 6th 2003 by a team from Caltech and CERN with a single 983 Mbps stream over a 7'067 km path between Geneva and Chicago.

The latest IPv4 record was established on October 1 2003 by a team from Caltech and CERN with a single 5.44 Gbps stream over the 7'073 km path between Geneva and Chicago thus achieving the amazing result of 38.4 petabit-meters/second using I2LSR's metrics (i.e. throughput x distance). The new record was achieved using HP's RX2600 servers kindly loaned by the CERN openlab [3], with dual Intel's Itanium 2 processors @ 1.5 GHz and Intel Pro/10 GbE-LR network interface cards, on the sender side in Geneva and dual Intel's Xeon 3.06 Ghz processors on the receiving side in Chicago.

Like with all records, there is still ample room for further improvements. Indeed, following the availability of a new 10 Gb/s interconnection with the Abilene backbone (US universities network) in Chicago, new IPv4 and IPv6 records have already been submitted by the same Caltech-CERN team to Internet2 for homologation, namely: 5.64 Gb/s IPv4 between CERN and Los Angeles (CENIC PoP) across the 10 Gb/s DataTAG circuit, Abilene and Calren (California Research Network), i.e. 61.7 petabit-meters/second and 3.87 Gb/s IPv6 between CERN and Chicago, i.e. 27.3 petabit-meters/second.

With the advent of PCI Express chips, faster processors and improved motherboards, there is little doubt that it will be feasible to push the performance of single stream TCP transport much closer to 10 Gbps in the near future, that is to say, well above 100 petabit-meters/second.



Relevance of these records to the HEP & Grid communities

Although the establishment of such records may sound irrelevant given the rather disappointing level of performance that can be achieved today over real networks, for example in Europe, such records are extremely important for the future of data intensive Grids, in general, and the LHC Computing Grid, in particular, because such Grids will depend

critically on sustainable multi-Gigabit/second throughput between Tier0, Tier1 and Tier2 sites.

Another very important point highlighted by Harvey Newman below was the fact that, for the first time in the history of wide area networking, performance was limited only by the end systems and not by the network!

Harvey Newman, head of the Caltech team and chair of the ICFA Standing Committee on Inter-Regional Connectivity said: *"This is a major milestone towards our goal of providing on-demand access to high energy physics data from around the world, using servers affordable to physicists from all regions. We have now reached the point where servers side by side have the same TCP performance as servers separated by 10,000 km. We also localized the current bottleneck to the I/O capability of the end-systems, and we expect that systems matching the full speed of a 10 Gbps link will be commonplace in the relatively near future."*

- [1] Caltech: Dan Nae, Harvey Newman, Sylvain Ravot, CERN: Danny Davids, Edoardo Martelli, Olivier Martin, Paolo Moroni.
- [2] The European Union DataTAG project is funded by the US Department of Energy (DoE), the European Union and the US National Science Foundation (NSF). The DataTAG project is led by CERN and brings together the following European leading research agencies: Italy's Istituto Nazionale di Fisica Nucleare (INFN), France's Institut National de Recherche en Informatique et en Automatique (INRIA), the UK's Particle Physics and Astronomy Research Council (PPARC), and the Dutch University of Amsterdam (UvA). The DataTAG project is very closely associated with the European Union DataGrid project, the largest Grid project in Europe also led by CERN.
- [3] The CERN openlab (<http://www.cern.ch/openlab>) for DATAGrid applications is a collaboration between CERN IT Division and industrial partners: Enterasys Networks, HP, IBM, Intel and Oracle.



4.3 MMM Status

Emmanuel Ormancey, IT/IS

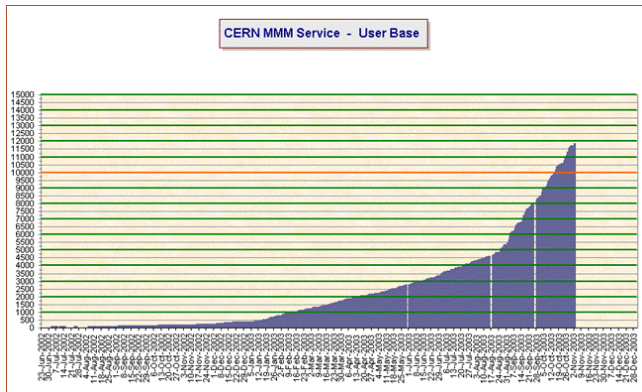
Why a migration?

The old CERN mail service was designed in 1994, it was improved in 1997 / 1998 and has reached the end of its life-time. New technologies have emerged and new solutions can today be deployed which offer improved, more transparent end-user services at lower operational cost.

Status

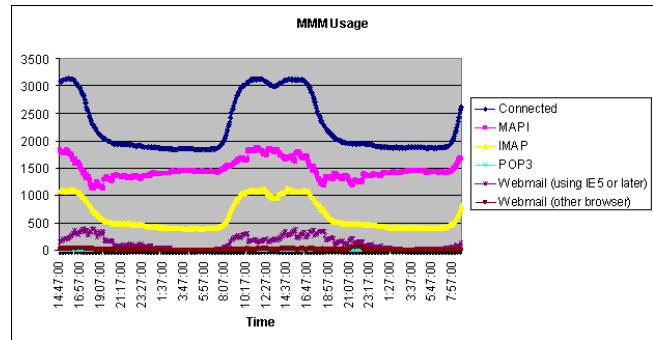
The MMM migration will finish at the end of November, according to plan. The status as of November 1st was:

- 12000 MMM Users, 1000 remaining to migrate before end of month.
- Cleanup of unused mail accounts: More than 1000 Mail accounts deleted.



MMM Production status

- 1 year production.
- No major incident, only common hardware failures, solved in short delays.
- Usage: Half Outlook XP, other half is IMAP, POP and HTTP access.



- 200000 Incoming mails per day, 30% is Spam.

Incoming emails (yesterday):	
Spam	Clean mails
59714	150609
Total: 210323 Mails	

MMM Infrastructure

- 14 Servers
 - 8 "Mailbox" stores
 - 2 Front-end servers
 - 2 Public Folder stores
 - 2 Spares
- IMAP (secure), POP (secure), MAPI and secure HTTP
 - MAPI with Outlook on Windows/Mac.
 - MAPI open outside CERN using Microsoft ISA Server.
 - IMAP and POP work with almost any client.
 - HTTP works with any Web browser.
 - Collaborative tools fully available with HTTP.
- Office XP recommended for collaborative features
 - Allows multi protocol (pop, imap, mapi, webdav).
 - All information stored at server level, no more local PST file problems.



5. Technical Computing

This includes: Products support for Engineering applications (Mechanical CAE, Electronics Design Automation, Mathematics Tools, etc.), software development (tools, CVS servers) and documentation (FrameMaker); Data Management and databases (Oracle); Accelerator and Controls Computing.

5.1 News from the Software Development Tools Service

Pete Jones, IT/PS

Abstract

Latest news concerning SDT licensing, Framemaker, SNiFF and Logiscope.

The Software Development Tools service is part of the DTS section of IT/PS.

Details of all supported tools can be found on the URL <http://cern.ch/product-support/sdt.html>.

This site replaces the the site <http://sdt.cern.ch/>, which is no longer maintained.

Contact to this service should be made using the email address sdt.support@cern.ch.

Latest news

Licensing

All SDT tools are now served by the central license servers. Users should no longer try to obtain license tokens from the ptttools machine.

FrameMaker

FrameMaker 7.0 is now available on Windows, Macintosh and Solaris platforms to all CERN users. FrameMaker 7.0 retains compatibility with the previous version and note that version 6 is still available for use.

FrameMaker is not available under Linux. However LX-PLUS users can start a FrameMaker session which will run in the background on a SUNDEV machine. Refer to <http://cern.ch/product-support/sdt/framemaker.html> for further information.

Logiscope

Logiscope - a code analyser and test coverage for C/C++/Fortran. The current version is 5.1 and is available on Solaris and Windows platforms. Version 6.0 has been acquired and will be put into production during November 2003. Refer to <http://cern.ch/product-support/sdt/logiscope.html> for further information.

SNiFF

SNiFF, - an Integrated development environment for C, C++, Java, or ADA. Version 4.1.1 of SNiFF has been available for sometime on Linux, Solaris and Windows platforms. This version is served by the central license servers and version 3 is no-longer supported. Refer to <http://cern.ch/product-support/sdt/sniff.html> for further information.

About the author(s):

Peter Jones is the manager of the SDT service



6. Desktop Publishing

Everything related to “Text Processing”: HTML and XML issues, $\text{\LaTeX}$, Word, Framemaker, etc.

6.1 Latest versions of $\text{\TeX}$ and XML software

Michel Goossens, IT/DI

Abstract

The latest versions of $\text{\TeX}$ (the TeXLive distribution) and several publicly available XML applications have been installed for use on Linux at CERN. The *fp_tex* TeXLive-based distribution is made available on Nice and can be installed on a Windows PC.

TeXLive 2003

In October I installed the latest Linux release of TeXLive (September 2003) on AFS, so that the most recent versions of $\text{\LaTeX}$ and its packages can be used.

To have access to this release (Linux only), add the directory

```
/afs/cern.ch/sw/XML/TL8/bin/i386-linux
```

at the beginning of your PATH variable (do not append it at the end since that will most probably make you use the older default version that comes with the operating system).

One interesting characteristic of this release is that for the first time the $\text{\LaTeX}$ format has been compiled with e- $\text{\TeX}$, the extended version of $\text{\TeX}$, which offers some interesting additional features, especially in the area of better support for debugging. $\text{\LaTeX}$ at CERN has hyphenation patterns for over twenty five languages (see below) preloaded, so that, after choosing the relevant language (e.g., with the `babel` package) your typeset output will be customized for that language.

```
> PATH=/afs/cern.ch/sw/XML/TL8/bin/i386-linux:$PATH
> export PATH
> latex
```

This is e-TeX, Version 3.141592-2.1 (Web2C 7.5.2)
%&-line parsing enabled.

```
(/afs/cern.ch/sw/XML/TL8/texmf/web2c/cp8bit.tcx)
```

```
**\ relax
```

```
entering extended mode
```

```
LaTeX2e <2001/06/01>
```

```
Babel <v3.7j> and hyphenation patterns for english,
dumylang, nohyphenation, basque, czech, slovak,
german, ngerman, danish, spanish, catalan, finnish,
french, ukenglish, greek, croatian, hungarian,
italian, latin, mongolian, dutch, norwegian,
polish, portuguese, russian, ukrainian, serbocroat,
swedish, loaded.
```

```
*
```

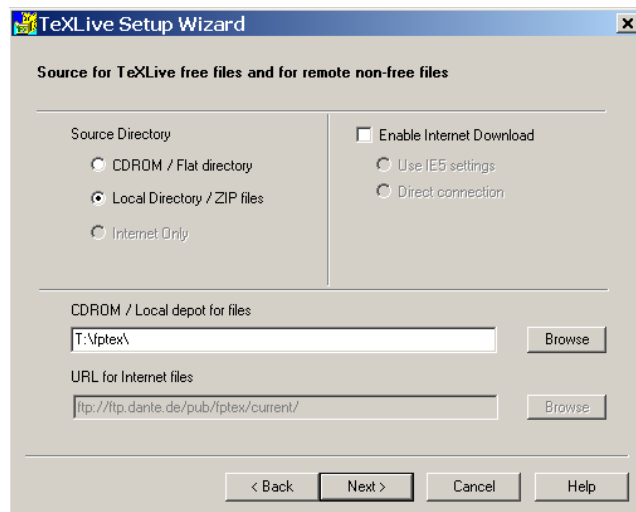
On Nice-2000 or Nice-XP the TeXLive 2003 release is available on dfs for installation on your Windows computer. You can install it, for instance on your local C: hard disk, by running the setup script

```
\\cern.ch\dfs\Experiments\sw\texlive\fptex\TeXSetup.exe
```

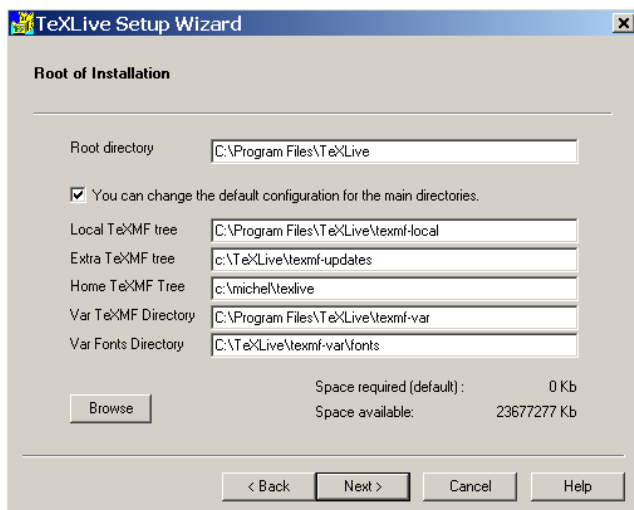
You will then be presented with the following start-up screen.



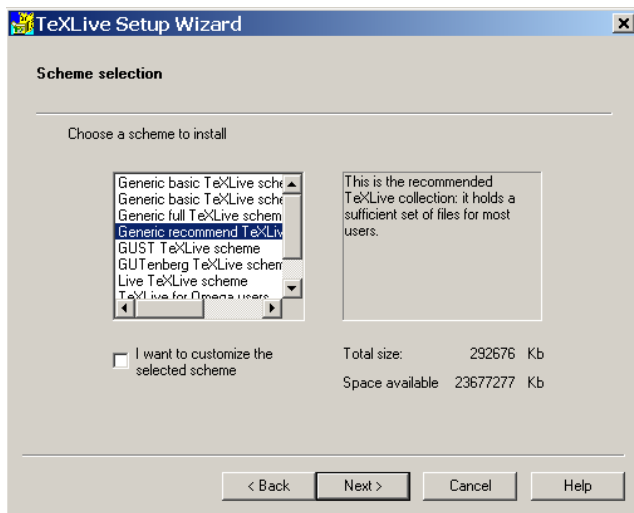
Choose *Install for all users* and hit the “Next” button, which will proceed to the screen where the source directory of the $\text{\TeX}$ files is to be specified.



Here, in the *Source Directory* part, choose “Local Directory / ZIP files”, and then in the *CDROM / Local depot for files* part, you have to specify the correct path to the *fp_tex* files (they are in the same directory as the *TeXSetup.exe* executable). Then hit the “Next” button, which will proceed to the screen where the root directories of the $\text{\TeX}$ installation on your PC can be specified.



Here, in the *Root directory* part, you will find the default values that `fptex` has chosen for installing the top directories of the distribution (by default the C drive). You probably will only need to specify the directory path for the “Home TeXMF Tree”, where you can easily add files to your $\text{T}_{\text{E}}\text{X}$ system (it is here that you can, for instance, copy CERN-specific files that you might need, see below). Once you are happy with the directory paths you can once more hit the “Next” button, which will proceed to the screen where you can select the “scheme” (file collection) that you want to install.



By default you will see the “Generic recommended TeXLive scheme” preselected. It is highly recommended that you

choose this selection of files. You should only choose a different scheme if you think you know what you are doing. The “recommended” will copy somewhat less than 300 Mbytes of files to your local hard disk. Hit the “Next” button to start the installation.

Note that, as the installation procedure is the standard one as distributed by the $\text{T}_{\text{E}}\text{X}$ Community, the CERN-specific `texmf-cern` directory tree, that I maintain on Unix, is not installed via this procedure. If you need files from that directory tree, you will have to copy them yourself to the working area where your $\text{T}_{\text{E}}\text{X}$ files reside so that $\text{T}_{\text{E}}\text{X}$ can find them (for instance in the “Home TeXMF Tree” directory that you specified on the *Root directory* screen described previously).

XML-related software

The directory `/afs/cern.ch/sw/XML/XMLBIN/bin/i386` on AFS contains a number of publicly-available XML tools for Linux. You can get access to these tools by adding that directory to your `PATH` environment variable, as follows (depending on your Unix shell):

```
# for Bourne-like shells
PATH=/afs/cern.ch/sw/XML/XMLBIN/bin/i386:$PATH
export PATH
```

```
# for C-like shells
setenv PATH /afs/cern.ch/sw/XML/XMLBIN/bin/i386:${PATH}
```

Some important tools in that directory (with their version number in parentheses) are:

<code>batik.sh</code>	(1.5)	Apache’s SVG browser
<code>fop.sh</code>	(0.20.5)	Apache’s XSL-FO to PDF converter
<code>latex2html.sh</code>	(2002-2-1)	$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ to HTML converter
<code>rxp</code>	(1.2.5)	Fast XML parser
<code>saxon.sh</code>	(6.5.3)	Mike Kay’s XSL parser
<code>xalan.sh</code>	(2.5.2)	Apache’s XSL parser
<code>xerces.sh</code>	(2.6)	Apache’s XML parser

All these tools are written in Java, except `latex2html` (in Perl) and `rxp` (in C).

About the author(s): *Michel Goossens is a CERN authority on $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$, XML and electronic document publishing techniques in general. He has written several articles and books on the subject.*



7. Education & Documentation

All kinds of "educational" computing issues and documents, such as computing news from the Press, tutorials, a selection of questions and answers from the Computing Helpdesk, and offerings of the Computing Bookshop.

7.1 Questions and Answers from the Computing Helpdesk

Collected by the User Assistance Team in IT/US

Nicole Crémel (Editor), IT/User Services

Abstract

This is a collection of Questions & Answers that have been treated by the Computing Helpdesk managed by the User Services group.

N.B. The number in parentheses refers to its relative numbering in the "Question-Answer" database, at URL:

<http://cern.ch/consult/qa/NNN>, where NNN is the problem identifier (number).

Windows Support

Question [3388] – Symantec anti-virus 8.0 already installed, but package not found

When booting my W2000 PC, I get this error message:

"Error ! Symantec anti-virus 8.0 has already been installed, but the package is not found"

Answer

This problem can be solved by removing manually Symantec Antivirus 8.0X. Since this task is not very easy, the NICE team has built an utility that can do this work automatically. You can download this tool from

`\\cern.ch\dfs\Applications\Symantec\scripts\SAV80uninstaller\SAV80_uninstaller.Vbs`

For more details please go to the CERN antivirus support website where this error message is explained under the link

"Troubleshooting" (at the bottom) which contains a recipe how to overcome the problem.

Related link:

- "Error ! SAV 8.0 has already been installed, but the package is not found..."
- <http://cern.ch/support-antivirus/>

Question [3407] – No installed flag (Add/Remove programs) for already installed hotfix and security patch

Why is an already installed Windows hotfix and/or security patch not flagged as "installed" in "Add/Remove Programs - Add New Programs"?

Answer

This behaviour is by design: when you call up the "Add New Programs" menu, these above updates are **not** flagged as installed, but they should be. However, after you install them (or after the computer tells you they are not needed anymore), they **are** indeed flagged. But this property vanishes again when calling up the same menu next time.

This is something we have to live with. A partial explanation would be that the mechanism used is such that a fixed "installed" flag is not always wanted as it might be wrong later when such an installation is not needed anymore in some weeks, months (or more).

UNIX Support

Question [3456] – Transfer files from NICE (DFS) to Linux PC outside CERN

I need to access my NICE (Windows) files from outside CERN. I want to copy complete directory trees of files located in NICE (DFS) to my home institute (on a Linux PC). How can I do this?

Answer

One possibility is to do it via the Web: you can access your files on NICE (DFS) from a web browser, by opening the DFS web service main page, at URL: <https://dfs.cern.ch/>. It provides several ways to access DFS files, inside or outside CERN (e.g. WebDAV secure access).

However, although the web interface is very easy to use and practical to copy one file at a time, it is not very convenient when you need to copy a whole directory or directory tree structure. In that case, the solution to transfer files located on NICE (Windows / DFS) from a Linux PC outside CERN is: first connect to Lxplus and from there use the commands `sftp sftpdfs.cern.ch` (secure ftp file transfer), or `scp` (secure remote file copy) still from `sftpdfs.cern.ch`. Then you can use again `sftp` or `scp` between your external Linux PC and Lxplus.

Note: it is still possible to access some "Cernhome" NICE servers at CERN (when the TCP/IP connectivity is **incoming**) from outside CERN with "ftp" (e.g. `ftp cernhome01.cern.ch`). But this is not possible for Cernhome02 and Cernhome05, or `sftpdfs` (as the TCP/IP connectivity is **outgoing**). Most probably no Cernhome NICE server will be accessible from outside with "ftp" in the near future, and the question of having an `sftp` service on Cernhome servers needs still to be discussed inside IT/IS.

Related links:

- IT Division - File Transfers
-

Question [3458] – Batch job pending when other jobs run

I have submitted 4 batch jobs yesterday night which are not yet executed, but it seems that many other jobs submitted much later are running. Why? Is it linked to some priority?

Answer

The reason that other jobs submitted later than yours may run before is the fair-share mechanism of LSF. It takes into account many conditions, and one is the share you and your experiment have already used up. If this share is used at a given time, and the share of another experiment is not, the user of this other experiment may run before you. On the other hand, this share allows you to use capacity of other experiments, if they don't need it. Therefore you can benefit from this as well.

In your case: you belong to the group XV (L3) and this experiment has the lowest share on the batch farm. It means that it is assigned very few resources.

If you type `bjobs -u u_xv` you will see how many of the jobs from your group are running and using resources. You are competing with them. Unfortunately the only solution is to wait.

Question [3453] – Batch - set job priorities (bmod - btop - bbot)

I want to modify the priority of my batch job from Lxplus. Looking at man bmod and man bsub I have tried bmod -sp ... but it gives the error message:

```
Job priority control undefined. Job not modified.
```

Answer

In the command `bmod -sp` the priority meant is the process priority (as reported as PRI by the command `top`) on the execution host. We do not support this feature right now at CERN.

The only way to move jobs within queues at CERN is to use the commands `btop` and `bbot`.

MAIL & Web Support

Question [675] – Mail quota

Is there a size limit (quota) on my CERN mailbox ?

Answer

With the migration to Exchange servers mail quota has been re-introduced for CERN mailboxes. The initial quota is calculated to be larger than your mailbox size. All users have received a mail from Mail.Support with the quota values applied to their account.

The Mail quota is different from NICE or AFS quotas. It is not meant to limit you but just to allow administrators to plan for disk space. You can check the actual value of your mail quota (and what is used), or ask for a quota increase, by using the "quota page" from the "MMM Services" web site (you will need to provide your NICE/Mail password to access the quota page). You will be informed when the size of your mailbox exceeds 90% of your quota.

Please note: users should clean up their mails from time to time. Especially the INBOX should be kept with a reasonable size (not too many mails) otherwise the mail clients can become very slow. For instance, users should not keep in their mailbox photos or pictures that are not directly linked to their work, and can take a large amount of space (use a CD for that).

Related links:

- Quota manager (quota values or request for quota increase) at: <https://mmm.cern.ch/quota> (you will need to provide your NICE/Mail password).
 - For more information, please consult: http://cern.ch/mmms/Help/contents/0_4_overquota.asp.
-

Question [3463] – From address seen by the mail recipient (PEM instead of GEM)

Since recently, when I send a mail with pine the recipient gets a mail:

```
From: Albert Einstein <einstein@mail.cern.ch>
instead of:
From: Albert Einstein <Albert.Einstein@cern.ch>
```

(i.e. using the PEM address `account-name@mail.cern.ch` instead of `Firstname.Lastname@cern.ch`).

What has changed, and how can I modify this ?

Answer

This is a known problem since the migration to `mmm.cern.ch` as a mail gateway.

The default CERN configuration for Pine is to send mails with a FROM message header being 'account-name@mail.cern.ch' (your PEM address). In the past (Unix mail servers), when these mails were directed to `smtp.cern.ch` as the SMTP gateway, the FROM header was automatically re-written according to the CERN user tables to `Firstname.Lastname@cern.ch` (the GEM address). Today, when using the new Exchange service `mmm.cern.ch` as a gateway, it is not done anymore. The mail team at CERN is working on that problem (this can be troublesome for your recipients or with some programs, when doing mail filtering or sorting).

A workaround is to "force" Pine to send messages with the correct GEM address in the FROM header. To do so:

```
go to Setup (type S) (in the Pine main menu)
go to Configure (type C),
then scroll down to the field Customized-hdrs.
Type "A" (Add Value) to edit the field
then enter:
    From: <Albert.Einstein@cern.ch>
(i.e. your GEM address of the form <Firstname.Lastname@cern.ch>)
Type enter to validate,
then Exit (type E), Yes (type Y).
```

Please note: Outlook XP is mapping by itself the PEM address to the GEM address. Hence mails viewed from Outlook XP appear correctly even if the wrong address is shown with Pine or any other IMAP client.

Related links:

- My mails sent through Pine have an incorrect FROM address
 - CERN MMM Faq & Problem resolution
-

Question [3442] – Recover deleted mail

Is it possible to retrieve a mail that was in my INBOX and that I have deleted by mistake ?

Answer

Yes, it is possible. The way to recover such mails is different depending on whether the mail has been deleted with an IMAP mail client (e.g. Outlook2000, Pine, Netscape), or with a MAPI client (e.g. Outlook XP).

1. When a mail is deleted with an IMAP client, it goes to the "cmd=showdeleted" of the folder where it was. You can then recover the deleted messages by opening the corresponding URL in a web browser:

```
https://mmm.cern.ch/exchange/<NICE-account>/<folder-name>Ggt;/?cmd=showdeleted
```

e.g. for mail deleted in INBOX for login = einstein, you should open:

```
https://mmm.cern.ch/exchange/einstein/Inbox/?cmd=showdeleted
```

2. When a mail is deleted with a MAPI client (or the Output Web Access OWA), it goes to the "deleted items" folder. When this folder is purged, it goes to a folder you can see with the "Recover Deleted Items" options on OWA or Outlook. Please note: from Outlook XP there is no way to see items that have been deleted with an IMAP client (e.g. a mail that has been deleted with pine). You need then to open the "cmd=showdeleted" as described above.

Related links:

More details are at http://cern.ch/mmmservices/Help/contents/0_4_Outlook2002-recoverdeleteditems.asp

Question [3422] – Clicking hyperlink takes existing IE window instead of opening new one

Every time I click on a hyperlink, it "hijacks" another Internet Explorer window previously opened. How can I tell it to open another browser window?

Answer

This is an option in Internet Explorer (which seems a bit hidden or at least not obvious). You should select:

Tools - Internet Options... - Advanced

In there, untick the default option: "Reuse Windows for launching shortcuts"

Then reboot your PC.

About the author(s):

Editing and revising the "Question and Answers" database is a daily task of the members of the User Assistance Team in the User Services group.



7.2 User Services Book Catalogue

Jutta Megies and Roger Woolnough, IT/User Services

Situated in Building 513 1-022 (tel. 74050) is the Computing Bookshop (<http://consult.cern.ch/xwho/people/67659>)

provided by the *IT / User Services* group, where CERN users can find computer books and CDs at discount prices. The service is open weekdays from 8.30 to 12.30 or contactable by e-mail to

Bookshop@cern.ch. Books are purchased from some 15 publishing houses and the catalogue offers a selection of documentation aimed at the range of computing utilities available at CERN. The service welcomes suggestions from the user community for new acquisitions. Purchasing may be done internally via EDH or TID or alternatively cash payments via the CERN Bank.

The list, with all the relevant information, is compiled regularly at URL: <http://cern.ch/consult/books>

8. Just For Fun ...

Some jokes to end this CNL, and have some fun ... for those who did not read them already, somewhere else!

8.1 Back In the Good Old Days

Found on the Internet

Abstract

This is a popular joke that you can find in several places on the Internet. For instance, I got it from: <http://www.fulllofjokes.com/joke.asp?ID=1412>

Poem By an Old Timer...

A computer was something on TV
from a science fiction show of note
a window was something you hated to clean...
And ram was the cousin of a goat....

Meg was the name of my girlfriend
and gig was a job for the nights
now they all mean different things
and that really mega bytes

An application was for employment
a program was a TV show
a cursor used profanity
a keyboard was a piano

Memory was something that you lost with age
a cd was a bank account
and if you had a 3 1/2" floppy
you hoped nobody found out

Compress was something you did to the garbage
not something you did to a file
and if you unzipped anything in public
you'd be in jail for a while

Log on was adding wood to the fire
hard drive was a long trip on the road
a mouse pad was where a mouse lived
and a backup happened to your commode

Cut you did with a pocket knife
paste you did with glue
a web was a spider's home
and a virus was the flu

I guess I'll stick to my pad and paper
and the memory in my head
I hear nobody's been killed in a computer crash
but when it happens they wish they were dead



If you need Help

FRONT LINE Services

	Phone	Location	E-mail Address
Computing Help Desk Opening hours: 8:30-17:30 (Monday-Friday)	78888		Helpdesk@cern.ch
Administrative Applications (EDH, CET, etc.) Opening hours: 8.30-12:30 and 13:30-17.30	79933	5/R-021	Ais.Support@cern.ch
Central Computer Operators 24/24 hours on call	75011	513/R-049	Computer.Operations@cern.ch
General Network (Operational Problems)	74927		Network.Support@cern.ch

Contacts at CERN

The “Computing Help Desk” is the call center for help on issues related to IT services. The following is a non-exhaustive list of services that are provided by the IT division, and the people responsible for it.

Please note:

- In the Web version of this page the "Service Definition" can be a link to the Welcome page of this service: we invite you to read carefully all the information given in this page before submitting a question/problem.
- In addition you might find it useful to search in the “Questions&Answers” (<http://cern.ch/consult/qas>) database for possible answers to your query.
- Many generic e-mail addresses for support lines are just an automatic re-direction to the Computing Helpdesk (this is the case, for instance, for Mail.Support or Www.Support). Those addresses have been kept mainly for backward compatibility, and also to help the Helpdesk to escalate the query towards the right specialist whenever this is needed.

USER SERVICES

Service Definition	Name	E-mail Address
User Relations and Service Manager	L.Pregernig	Ludwig.Pregernig@cern.ch
Help Desk Managers	R.Woolnough	User.Relations@cern.ch
	N. Crémel	User.Relations@cern.ch
User Registration		User.Registration@cern.ch
Computing Bookshop	J.Megies	Bookshop@cern.ch

CENTRAL SERVICES

Service Definition	Name	E-mail Address
Distributed File Services (incl. AFS)		Afs.Support@cern.ch
CASTOR and Tapes Support		Castor.Support@cern.ch
Central Data Recording (CDR)		Cdr.Support@cern.ch
Print Service	J.L.Vosdey	Printer.Support@cern.ch
NAP and Parallel Applications	E.Mcintosh	Eric.Mcintosh@cern.ch

IT-Experiment Coordination See the URL <http://cern.ch/it-exp-coordination>

DESKTOP COMPUTING

Service Definition	Name	E-mail Address
NICE (CERN Windows Services)		Nice.Support@cern.ch
PC Desktop (Repairs and Sales)	C.Ball	PC.Admin@cern.ch
MACintosh Support	F. Ovet	Mac.Support@cern.ch
MACintosh Sales	W.Hug	Waltraud.Hug@cern.ch
X Terminals Support		Xterminal.Support@cern.ch
ASIS Support		Asis.Support@cern.ch

Operating System Support:

Service Definition	Name	E-mail Address
SUN s/w		Sun.Support@cern.ch
Solaris s/w		Solaris.Support@cern.ch
Linux		Linux.Support@cern.ch

SCIENTIFIC APPLICATIONS & SOFTWARE ENGINEERING

Service Definition	Name	E-mail Address
CERN Program Library		Heplib.Support@cern.ch
PAW Support	O.Couet	Paw.Support@cern.ch
Oracle Databases	N.Segura	Oracle.Support@cern.ch
Objectivity DB Service		Objectivity.Support@cern.ch
Software Development Tools		SDT.Support@cern.ch
Adobe FrameMaker		Docsys.Support@cern.ch
IT Controls		ITControls.Support@cern.ch

COMPUTING FOR ENGINEERING

These activities are now in the Product Support (PS) group.

Index of tools: http://cern.ch/product-support/support_index.html

COMMUNICATIONS AND NETWORKS

See the "Communications Systems Group" web pages, at URL <http://cern.ch/it-div-cs/public/help/>.

INTERNET SERVICES

Service Definition	Name	E-mail Address
Web Services		Www.Support@cern.ch
Mail Support (MMM Exchange 2000)		Mail.Support@cern.ch

In addition to this generic address, the normal support lines are listed at URL:
<http://cern.ch/mailservices/Support/>

COMPUTER SECURITY

Computer Security Information	Computer.Security@cern.ch
Security Alert Reports	cert@cern.ch

Other Newsletters

Administrative Information Services: CERN/AS AIS Newsletter (<http://ais.cern.ch/newsletter>)

Contact: AIS.Newsletter@cern.ch

Some Useful Web Pages

IT Home Page	http://cern.ch/it-div
IT Service Status Board	http://cern.ch/it-servicestatus/
Computer Security Information	http://cern.ch/security
Network Connection Request Form	http://network.cern.ch/register
NICE (CERN Windows Services)	http://cern.ch/winservices/
MMM Services (Exchange)	http://cern.ch/MMM/
Web Services	http://cern.ch/WebServices
PC Hardware	http://pcwww.cern.ch/
Remote/Mobile Computing	http://cern.ch/it-div-cs/public/services/mobile/
CASTOR Query Report	http://wwwinfo.cern.ch/htbin/pdp/castor/castor_report.pl
GEANT4	http://cern.ch/geant4/
MAD	http://cern.ch/mad/
Software Development Tools	http://cern.ch/product-support/sdt
PVSS Service	http://cern.ch/itcobe/Services/Pvss/
L ^A T _E X at CERN	http://wwwinfo.cern.ch/asdoc/textproc.html

Seminars and Presentations

Designation	Usual Location	Organizer(s)	E-mail Address
Computing Colloquia	Auditorium / bldg 500 see http://cern.ch/computing-colloquia	J. Shiers, IT	Jamie.Shiers@cern.ch
Computing Seminars	IT Auditorium 31/3-005 see http://wwwinfo.cern.ch/seminars/	J. Blake, IT	computing.seminar@cern.ch
Technical Presentations	IT Auditorium 31/3-005	S. Cannon, IT	stanley.cannon@cern.ch

Computer Resources Allocation and Divisional Contacts

Computer Resources Allocation Committee (COCOTIME):

Chairman: H. Hoffmann/DG 60/5-006 75458 Hans.Falk.Hoffmann@cern.ch
Secretary: A. Morsch/EP 160/R-018 78617 Andreas.Morsch@cern.ch

Divisional Representatives for Computing (Desktop Forum)

The list of contact persons per division for computing issues (resource allocation, divisional servers, licenses matters) is at the URL <http://cern.ch/mgt-desktop-forum/Members.htm>

Divisional Representatives for Networking

For questions about new installations, testing, local coordination, etc., please ask the contact person for your division (or, if you are an experimental physicist, the networking contact person within your experimental group).

The complete and up-to-date list of "Divisionale networking contacts" is at the URL <http://it-div-cs.web.cern.ch/it-div-cs/public/di/divreps.html>.

Editorial Information

Editorial Board

Chief Editor	Nicole Crémel (CNL.Editor@cern.ch)
Associate Editors	Charles Curran François Grey Ludwig Pregernig
Technical advisor (printed edition)	Michel Goossens

The opinions expressed in this newsletter are those of the contributors and are not necessarily those of the CERN Management. The Editors reserve the right to edit or omit articles, or hold-over copy due to lack of space.

General Information

The CNL Web home page is at URL: <http://cern.ch/cnl>

The policy is to have between two and four CNL editions per year.

Issue number	Deadline
CERN-CNL-2004-001	Friday 5th March 2004

Information for contributors

The CNL is processed using XML technology and templates. Articles marked up in HTML are preferred, but plain text is also acceptable. Pictures can be included in GIF, JPEG or PNG format. Please send your file by mail to CNL.Editor@cern.ch.

Distribution

- An electronic mail is sent to the “CNL Announcement Distribution List” as soon as a new issue of the CNL is available on the Web (<http://cern.ch/cnl/announcement>).
- A paper version is sent to the users who have subscribed to the “CNL Paper Version Registration” list (<http://cern.ch/cnl/register>).

Note that you can also cancel your subscription in either case by filling out the appropriate form:

- cancel your subscription to the CNL announcement distribution list: http://cern.ch/cnl/cancel_announcement.
- cancel your subscription to receive the paper version: http://cern.ch/cnl/cancel_register.

The compressed *PostScript file* containing the complete printable version of this CNL is available via the Web at the URL <http://cern.ch/cnlart/2003/003/main.ps.gz>. It is possible that, in order to optimize typesetting, the PostScript printable version differs slightly from the master HTML version. In any case the HTML version on the Web must be considered as the reference.