

**Contents**

Introduction . . . . .	1
What is Fedora Core 3? . . . . .	1
Test FC3 Machines . . . . .	1
Flexible Choices for Machine Management	2
FC3 and Apache 2 . . . . .	2
VMWare . . . . .	3
Software (RPM) changes in DICE FC3 . . .	3
FC3 News Web page . . . . .	4
Timetable for Migration to FC3 . . . . .	5

**► Introduction**

This summer we will be upgrading the DICE platform from Redhat 9 to Fedora Core 3 (FC3). This newsletter explains why we are upgrading, the principal changes involved and how users can start testing their software under Fedora Core 3.

**► What is Fedora Core 3?**

Most of you will be aware that we aim to upgrade to the latest Redhat release annually or biennially. We do this for a number of reasons :-

- to obtain support for new hardware (desktops, servers etc)
- to update software (particularly development related) required for teaching and research.
- to continue to be able to receive security and bug fixes (Redhat drops support for old releases after a period of time).

Development on the Redhat release we currently run, Redhat 9, ceased some time ago, with the result that it is unable to support modern hardware. This is causing us serious problems for purchasing new and replacement kit.

As explained in the May 2004 newsletter, Redhat have split their Linux offering into two branches:-

- Redhat Enterprise (RHEL) - a subscription product designed with stability as its core attribute with a new release every 12 to 18 months and a support window for 5 years.
- Fedora - a free, community developed branch coordinated by Redhat with a new release every 4 to 6 months and a support window of around a year. This branch will tend to be more "bleeding edge", often using developmental versions of software.

This might have given us a difficult choice in trying to balance stability and support against keeping up-to-date, but fortunately the latest versions of RHEL (4) and Fedora (Core 3) are very similar. Given the significant (though affordable) cost of RHEL we have concluded that Fedora Core 3 should form the basis for the next version of DICE.

The timetable on page 5 shows when we aim to upgrade DICE machines and services.

Two computing labs, one at each of Kings Buildings and Appleton Tower, will be upgraded *after* the MSc project deadline.

Please note that we are *aiming to* upgrade ALL user machines to FC3 by the start of the academic session 2005/2006. This will involve considerable work by the CSOs over the summer and I ask that users assist us meet this schedule by not unduly delaying upgrades of their machines. The absolute deadline for upgrading machines is end December when the DICE Redhat9 platform is end-of-lifed (EOL).

Alastair Scobie <ascobie@inf.ed.ac.uk>

**► Test FC3 Machines**

A number of test DICE FC3 desktops will be installed in April. These are provided so that users can become familiar with FC3 and start porting software.

These desktops will be installed at the following locations :-

- KB — 2509
- AT — 3rd Floor open plan area

❑ FH — FH-A20 (Tunnel Lab)

❑ BP — 2BP-3L04

Please note that DICE FC3 is still very much under development and much software remains to be installed.

Please note: there is a backwards compatibility issue with certain “dot” files which means that it is inadvisable to share home directories between RH9 and FC3. We are working on a solution to this problem in time for deployment in early June. Meanwhile, on the test FC3 desktops users will see a separate FC3 home directory (`/home/user`); normal DICE home directories can be accessed via the path `/nethome/user`.

Alastair Scobie <ascobie@inf.ed.ac.uk>

## ► Flexible Choices for Machine Management

As described in the last newsletter, the forthcoming “Fedora Core 3” release of DICE will include several new facilities, designed to support a wider range of options for the ways in which users’ machines may be managed. Hopefully these will provide some useful alternatives to the existing extremes of “centrally managed” vs “self-managed”:

Users will be able to submit software packages in RPM format to a central repository of “contributed” software, providing that the packages conform to a number of restrictions; for example, files will be restricted to a particular area of the filesystem (`/usr/contrib`), and obvious security issues such as `setuid` programs and pre/post-install scripts will not be permitted. Users of ordinary “managed” DICE machines will then be able to subscribe to any of these packages which will then be automatically installed, and updated on their machines, along with the other standard software. Of course, the responsibility for supporting this additional software and ensuring that it remains compatible with DICE upgrades would remain with the contributor.

Users who need more control over the configuration of their machines, will probably be currently managing and maintaining their configurations manually (“self-managed” machines). The new “DIY DICE” facility will provide the ability to use many of the underlying DICE tools to support automatic software updates, (re)installation, and configuration for such self-managed machines. This should combine the full flexibility of the self-managed machines, with the increased reliability, security, and lower maintenance cost of “managed” DICE machines.

The insecurity of the current NFS remote filesystem technology means that self-managed machines (including DIY machines) are not permitted to mount remote filesystems containing sensitive data (such as home directories). It is hoped that a pilot implementation of a new filesystem technology will be available shortly after the FC3 release. This means that selected remote filesystems will be made available to self-managed machines on a pilot basis.

Paul Anderson <dcspaul@inf.ed.ac.uk>

## ► FC3 and Apache 2

As part of the move from Redhat 9.0 to Fedora Core 3, the web server software available on DICE client machines will be changing from Apache 1.3 to Apache 2.0. The new version of Apache won’t recognise a few of the old configuration directives, so anyone running their own web server may have to update their configuration files.

Over the Summer, but certainly before the end of the year, the web team managed web servers will also move from Apache 1.3 to Apache 2. Most users will not notice a difference, as web content will be unaffected, as will most CGI processing. However, users of `PATH_INFO` may need to add an extra directive to their `.htaccess` files (see the Apache link later in this article). People who have `.htaccess` files may need to update these files to use the new directives.

The list of web team managed web servers includes:

- ❑ Main services — `www.inf.ed.ac.uk`, `home-pages.inf.ed.ac.uk`, `groups.inf.ed.ac.uk`
- ❑ Institute/group services — `www.ipab.inf.ed.ac.uk`, `www.cisa.inf.ed.ac.uk`, `www.aiai.ed.ac.uk`, `www.etaps05.inf.ed.ac.uk`
- ❑ Legacy services — `www.dcs.ed.ac.uk`, `www.dai.ed.ac.uk`, `www.cogsci.ed.ac.uk`

The above list is not exhaustive, but covers most cases. As services move from Apache 1.3 to Apache 2.0, we’ll be configuring parallel services based on the same data, but using Apache 2, so people can check their pages will work.

The Apache Software Foundation provide the page <http://httpd.apache.org/docs-2.0/upgrading.html> which details the differences between the two versions of Apache.

Neil Brown <neilb@inf.ed.ac.uk>

## ▶ VMWare

As part of the upgrade to FC3 we are proposing to drop VMWare. This is for the following reasons: time cost of porting support to FC3; very few (if any) remaining users; generally CrossOver can be used instead; it is expensive to maintain. If you currently use VMWare and need to continue to do so and none of the alternatives are suitable then please contact us.

Tim Colles (for the Edinburgh Environment team) <timc@ed.ac.uk>

## ▶ Software (RPM) changes in DICE FC3

When we upgrade DICE there is usually a “churn” of packages (RPMs). This happens at two levels and for broadly similar reasons. A number of RPMS are removed, replaced or upgraded by the base operating system and the COs make similar changes in the software layers that sit on top. The Fedora Project add or remove rpms based on what they believe is most suitable for their product and on a number of requirements: mainly that all the software must be GPL or equivalently licensed, that any upstream source is maintained and that they limit the install set to 4 CDs.

Generally we upgrade our RPMS to the most recent stable release and we also take the opportunity to replace applications where there are better featured, better supported or more widely used equivalents. An OS upgrade is also the main opportunity to remove RPMS which are no longer used, no longer actively maintained or which can't be ported to the new OS. This is usually a bigger problem for us than for Fedora because we are usually skipping several releases.

The biggest single factor in continuing to ship an RPM is whether the upstream application is being actively maintained. Where there is continuing development the effort involved in porting software is usually small. However, maintaining a local development fork of an application is an overhead which we are reluctant to take on unless there is significant demand. The same criteria generally apply to new software requests.

In the forthcoming DICE we are moving from RH9 (1402 RPMS) to FC3 (1653 RPMS) and we will be upgrading about 600 rpms built in house. The sheer number of changes in DICE make it impractical to give a full review of all the package changes so this article is intended as an overview of some of the highlights.

Major changes between the core operating systems can be seen on the distrowatch website (<http://distrowatch.com>) which tracks 144 core pack-

ages across a number of linux distributions.

A detailed list of updated and deprecated RPMS including locally built RPMS can be found in the Environment group's [documentation section](#).<sup>1</sup>

For the moment this mainly consists of packages which have been dropped by Fedora.

### Overview of changes DICE RH9 to DICE FC3

Major Applications deprecated.

- Netscape 4.x
- licq sawfish

### Significant upgrades

package	old version	new version
GCC	3.2.2	3.4.2
Glibc	2.3.2	2.3.4
XFree86	4.3.0	Xorg 6.8.1
libstdc++	3.2.2	3.4.2
perl	5.8.0	5.8.5
KDE	3.1	3.3.1
Gnome	2.2	2.8
RH7 compatilby libraries	7.3	8.3
openmotif	2.2.2	2.2.3
qt	3.1.1	3.3.3
tcl/tk	8.3.5	8.4.7
Tetex	1.0.7	2.0.2

### Support level changes

From Dice FC3 onwards, Firefox will replace Mozilla as the official supported web browser. Thunderbird will replace the Mozilla mail application and Sunbird will replace the Mozilla calendar application.

The mozilla suite will continue to be installed but support will be dropped to applying security updates. Mozilla will probably be dropped with the next upgrade. Users are encouraged to migrate to the new applications once their desktops have been upgraded to DICE FC3

An updated version of this list can be found under <http://www.inf.ed.ac.uk/systems/latest/FC3> please check it periodically for updates.

<sup>1</sup><http://www.dice.inf.ed.ac.uk/groups/infrastructure/edinenv/docs/rpms/index.html>

### A (very) short tutorial on RPM

If you have a favourite application or utility and want to check to see if it has been updated but don't know which RPM it's in, you can find out by using the `rpm` command in *query mode*.

#### To list the contents of an RPM:

```
[beatty]: rpm -ql libstdc++
/usr/lib/libstdc++.so.5
/usr/lib/libstdc++.so.5.0.3
```

#### To find out which RPM a file is in:

```
[beatty]: rpm -qf /usr/lib/libstdc++.so.5
libstdc++-3.2.2-5
[beatty]iainr:
```

#### To get more information about an RPM:

```
[beatty]: rpm -qi libstdc++
Name       : libstdc++
Relocations: (not relocateable)
Version    : 3.2.2
Vendor: Red Hat, Inc.
Release    : 5
Build Date: Tue Feb 25
13:53:15 2003
Install Date: Tue Jun 15
14:22:56 2004
Build Host:
stripples.devel.redhat.com
Group      : System Environment/Libraries
Source RPM: gcc-3.2.2-5.src.rpm
Size       : 710608
License: GPL
Signature  : DSA/SHA1,
Tue Feb 25 15:04:24 2003,
Key ID 219180cddb42a60e
Packager   : Red Hat, Inc.
<http://bugzilla.redhat.com/bugzilla>
URL        : http://gcc.gnu.org
Summary    : GNU Standard C++ Library
Description: The libstdc++ package contains
a rewritten standard compliant GCC Standard
C++ Library.
```

Iain Rae <iainr@inf.ed.ac.uk>

### FC3 News Web page

We have created a dedicated WWW page to keep users up-to-date with progress on the upgrade to FC3, at :-

<http://www.inf.ed.ac.uk/systems/latest/FC3>

Alastair Scobie <ascobie@inf.ed.ac.uk>

## ► Timetable for Migration to FC3

