Differencing Files

The common UNIX **diff** command is part of the standard toolbox. It can show the difference between any two files, or applied recursively, two complete directory trees.

As a simple example, suppose **file1** contains:

```
4

1

2

3

file.

This is the

contents

of a simple
```

and **file2** contains:

```
1

2

3

4

This is the

contents of a slightly

different

file.
```

Simply comparing the files gives:

```
7

8

4

5

6

1

2

3

> contents of a slightly

> different

< contents

< of a simple

---

$ diff file1 file2
```

2,3c2,3

However, this is not the most useful form of output. One usually applies the **-u** option, to give what is termed the unified output which is used in **patch** commands:

```
11

7

8

9

10

4

5

6
```

```
1

2

3

 file.

-contents

-of a simple

+contents of a slightly

+different

+++ file2       2010-01-03 15:48:11.621507573 -0600

@@ -1,4 +1,4 @@

 This is the

$ diff -u file1 file2


--- file1       2010-01-03 15:48:15.933974603 -0600
```

Note the following:

- The **---** notes the first file and +++ the second file.

- The **@@** line gives the line number context for both files.

- Lines that have been removed in going from **file1** to **file2** are denoted by **-** and lines that have been added are denoted by **+**.

- The output also shows the context of the differences by showing the unmodified lines before and after the patch.

When comparing two directory trees the form used is often:

```
1

$ diff -Nur directory1 directory2
```

where the **-r** option forces a recursive descent into the trees, and the **-N** option forces files which have been added or deleted to appear in the differencing, instead of just generating a warning that a file is in only one directory tree.