CSG1102 - Operating Systems

Assignment 02 (SEM01/2015)

**Assignment Topic: File System Journaling in Ext3**

**Related Objectives from Unit Outline:**

* Analyse and describe the different implementations of modern operating system;
* Demonstrate an awareness of the new features of the operating systems currently in use

**Marks:** Worth **30%** of the total marks for this unit. (30 Marks)

**Due date: Friday of Week 10 @ 09.00 AM (GMT +8).**

**Length:** The report should be word-processed and be no more than 3000 words.

* Submission format is A4, word-processed document.
* The assignment must be your own work.

**Report Guidelines:**

Your report should show the quality as a piece of technical writing. It should include the following considerations:

* Spelling and grammar
* Structure: The report should have a logical progression. The executive summary should put the report in context and provide an overview of the remaining of the report. It should also highlight the main points of the topics discussed in the report.
* The report should be well laid out and easy to read.

The report should show your understanding of the ***topic***. It should provide appropriate breadth and depth of coverage and it should not be cursory.

**Task:**

Write a well-presented *technical report* on topic: “How is file system journaling implemented in the ext4 file system” to explain how journaling systems function within the ext3 file system.

**Marking Guide for the Second Assignment**

**Title**

* The implementation and operation of the ext4 file system

**Executive Summary**

* This should summarise the entire report in about 200-300 words. (**3** marks)

**Background information**

* An introduction to journaling file systems (**3** Marks)

**Discussion**

* Describe the various mechanics required to enabling a journaling file system to operate (**3** Marks)
* Discuss the following with respect to ext4’s implementation of file system journaling. (**9** Marks)
* The operations needed to create a file
* The mechanism to update the contents of a file
* How the file system journal is utilized following an interrupted write operation
* **Conclusion** (**2** Marks)

**References**

All sources of material used in your report including figures etc. must be cited (*in text citation*) ***and*** listed (*end reference list*). For details about referencing and the required format, please refer to the ECU Referencing Guide, which can be found from the following URL: http://www.ecu.edu.au/LDS/pdf/refguide.pdf (4Marks)

**Presentation**

Marks will be allocated for presentation (English, spelling, logical flow, layout, etc.. (6marks)