Försättsblad Prov Original

Kurskod						Provkod				Tentamensdatum								
D	T	1	4	9	G	T	1	0	5	2	0	2	3	-	0	4	-	1	3

Kursnamn	Datateknik GR (B), Administration av UNIX-lika system
Provnamn	Skriftlig tentamen
Ort	Sundsvall
Termin	
Ämne	

DT149G Administration of UNIX-like systems

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Instructions

Carefully read the questions before you start answering them. Note the time limit of the exam and plan your answers accordingly. Only answer the question. The questions are *not* sorted by difficulty. Clearly show which answer you are giving your solution to. *Always motivate your answers and show your calculations.*

Time 5 hours.

Exam Aids Dictionary, Course Litterature [2] or latest edition.

Maximum points 30

Questions 10

Preliminary grades

The following grading criteria applies: E ≥ 30%, D ≥ 45%, C ≥ 60%, B ≥ 75%, A ≥ 90%. Scoring will be based on level of depth shown in your answer. To pass this exam you must have shown proficient knowledge in all the intended learning outcomes (ILO) covered in this exam. Each questions ILO affiliation is shown as (ILO: #). The grade limit given is preliminary per ILO. Final grade is set based on your performance on each individual ILO.

Covered ILO

This exam covers the following Intended Learning Outcomes (ILO)

- ILO: 1 – Administer and modify a UNIX-like system and its services

- ILO: 2 – Identify, implement and motivate choice of services

- ILO: 3 – Describe how the upstart process works in a UNIX-like system

Questions

The questions below are not given in any particular order.

(3p) 1. *(ILO: 1)* Give two reasons why you should build a custom kernel for your system.

(3p) 2. *(ILO: 1)* How does the files passwd, shadow, and groups relate to each other and what information can be found in them? Reason around why it is necessary to separate them?

(3p) 3. *(ILO: 1)* What is the user trying to be achieve here, why won't it work and give an example of how to achieve this in a more correct way.

```
exam@DT149G:/usr/local/scripts$ ps ax | head −n 3
  PID TTY       STAT    TIME COMMAND
    1 ?          Ss      0:00 /sbin/init
    2 ?          S       0:00 [kthreadd]
exam@DT149G:/usr/local/scripts$ sudo kill 1
[sudo] password for exam:
exam@DT149G:/usr/local/scripts$ ps ax | head −n 3
  PID TTY       STAT    TIME COMMAND
    1 ?          Ss      0:00 /sbin/init
    2 ?          S       0:00 [kthreadd]
exam@DT149G:/usr/local/scripts$
```

(3p) 4. *(ILO: 2)* Name an issue with using an Access Agent without encryption. What is needed for using SSL with POP3 or IMAP and how do you set it up.

(3p) 5. *(ILO: 2)* Explain how the reverse domains work. Your explanation must contain the naming hierachy, why it looks like that, and also an example of a zone-file for a reverse zone.

(3p) 6. *(ILO: 2)* What is the purpose of having a stateful inspection enabled in the firewall? What are some downsides to it?

(3p) 7. *(ILO: 2)* Reason about syslog. How does it work, what are some good qualities with this style of log managing, and what problems can it lead to?

(3p) 8. *(ILO: 3)* In lab 2 you explained how GID and UUID relates to users in the system, but what is the purpose of /etc/skel ?

(3p) 9. *(ILO: 3)* What is the purpose of the ramdisk in the boot process?

(3p) 10. *(ILO: 3)* How would you go about to identify a process that is taking up too much resources, and instead of killing it, suspend it. If you later would like to start it up again, how will you achieve this?

References

[1] *DT149G - Administration of UNIX-like systems*. Course version 1.0. 2015.

[2] Evi Nemeth et al. *UNIX and Linux system administration handbook*. 4th ed. Upper Saddle River, NJ: Prentice Hall, 2011. ISBN: 978-0-13-148005-6 (pbk. : alk. paper).

[3] Evi Nemeth et al. *Unix and Linux system administration handbook*. Fifth edition. Boston: Addison-Wesley/Pearson, 2017. ISBN: 9780134277554.