

## Information and Communications Security WS 10 Assignment 2

Fachbereich  
Wirtschaftswissenschaften

Institut für Wirtschaftsinformatik  
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Study the following questions and return your answers by email to [ioannis.krontiris@m-chair.net](mailto:ioannis.krontiris@m-chair.net), before **29<sup>th</sup> of November 2010, 18:00 pm**.

### Exercise 1:

Which type of operating system did produce the following directory listing (hint: access control attributes)?

```
-rwxr-xr-x  1 student123  hrz      10764 Nov 27  1993 lsu118
-rw-r--r--  1 student123  hrz         226 Nov 27  1993 lsu118.c
-rwxr-xr-x  1 student123  hrz     11679 Nov 29  1993 rk
-rw-r--r--  1 student123  hrz      1624 Jul 18  1994 rk.c
-rwxr-xr-x  1 student123  hrz     12366 Nov 27  1993 t
```

### Exercise 2:

Alice can read and write to the file x, can read the file y, and can execute the file z. Bob can read x, can read and write to y, and cannot access z.

- Write a set of access control lists for this situation. Which list is associated with which file?
- Write a set of capability lists for this situation. With what is each list associated?

### Exercise 3:

- Name a fundamental difference between the security model of Bell-LaPadula and the Chinese Wall Model. What are the additional security assets that the Chinese Wall Model is supposed to refer to?
- The concept of roles has been introduced to you during the last lectures. Please describe this concept briefly.
- Please assume that you are working for the University of Frankfurt as a research assistant after having received your diploma. Please identify four different roles that you might be authorised to assume. Please note for each identified role one or two problems that might be encountered by a role-based access control model.