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## CHAPTER 28 (corrisponde al cap. 27 italiano)

# *Network Management: SNMP*

## *Solutions to Review Questions and Exercises*

### Review Questions

1. *Network management* is defined as monitoring, testing, configuring, and troubleshooting network components to meet a set of requirements defined by an organization.
2. The functions performed by a network management system can be divided into five broad categories: **configuration management**, **fault management**, **performance management**, *security management*, and **accounting management**.
3. The *configuration management* system updates information about the status of each entity and its relation to other entities.
4. Configuration management can be divided into two subsystems: *reconfiguration* and **documentation**.
5. *Fault management* supervises the operation of the network, which depends on the proper operation of each individual component and its relation to other components.
6. A fault management system has two subsystems: *reactive fault management* and *proactive fault management*.
7. *Performance management* monitors and controls the network to ensure that it is running as efficiently as possible.
8. The four measurable quantities in performance management are *capacity*, *traffic*, *throughput*, and *response time*.
9. *Security management* is responsible for controlling access to the network based on the predefined policy.
10. *Accounting management* is the control of users' access to network resources through charges. Under accounting management, individual users, departments, divisions, or even projects are charged for the services they receive from the network.

## Exercises

11.

INTEGER tag: **02**length: **04**value: **00 00 05 B0**

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Answer: **02 04 00 00 05 B0**

12.

OCTET STRING tag:**04**length: **0C**value: **48 65 6C 6C 6F 20 57 6F 72 6C 64 2E**

H e l l o space W o r l d .

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Answer: **04 0C 48 65 6C 6C 6F 20 57 6F 72 6C 64 2E**

13.

OCTET STRING tag: **04**length of the length field (2 bytes) (10000010) = **82**length (1000 bytes) = **03 E8**

value (1000 character)

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Answer: **04 82 03 E8 (Plus 1000 bytes of characters)**

14.

**30 16****02 04 00 00 09 29****04 08 43 4F 4D 50 55 54 45 52****40 04 B9 20 01 05**

sequence, length

INTEGER, length, value (2345)

OCTET STRING, length, value (COMPUTER)

IP address, length, value (185.32.1.5)

15.

**30 15****43 04 00 00 2E E0****02 04 00 00 38 E4****06 07 01 03 06 01 02 01 07**

sequence, length

TIME TICK, length, value (1200)

INTEGER, length, value (14564)

Object ID, length, value (1.3.6.2.1.7)

16.

**30 18****02 04 00 00 09 29****02 04 00 00 04 D4****02 04 00 00 00 7A****02 04 00 00 04 D4**

sequence, length

INTEGER, length, value (2345)

INTEGER, length, value (1236)

INTEGER, length, value (122)

INTEGER, length, value (1236)

17.

<b>30 43</b>	sequence, length
<b>30 41</b>	sequence, length
<b>02 04 00 00 09 29</b>	INTEGER, length, value (2345)
<b>04 08 43 4F 4D 50 55 54 45 52</b>	OCTET STRING, length, value (COMPUTER)
<b>41 04 00 00 01 59</b>	counter, length, value (345)
<b>30 29</b>	sequence, length
<b>02 04 00 00 04 63</b>	INTEGER, length, value (1123)
<b>04 04 44 49 53 4B</b>	OCTET STRING, length, value (DISK)
<b>41 04 00 00 05 96</b>	counter, length, value (1430)
<b>30 15</b>	sequence, length
<b>02 04 00 00 0D 80</b>	INTEGER, length, value (3456)
<b>04 07 4D 4F 4E 49 54 4F 52</b>	OCTET STRING, length, value (MONITOR)
<b>41 04 00 00 09 09</b>	counter, length, value (2313)

18.

- the integer **16913458**
- sequence of 2 integers: **17** and **20**
- sequence of the string: "**ACB**" and the integer **5140**
- sequence of an IP address **35.81.98.113** and the integer **5138**

