

Reimagining the Internet

- 1. Vint Cerf has described the InterNet as a homogenous network that connects heterogeneous computers. What does that mean?**
 - Cerf meant that different systems connect and communicate through the same network protocols.
- 2. What is Metcalfe's law? (Hint: Use Google.)**
 - Metcalfe's law states that the value of a telecommunications network is proportional to the square of the number of connected users of the system.
- 3. Where geographically are the majority of Internet Users located?**
 - The majority of Internet users are located in Asia.
- 4. Concerning the Internet, with what are mobiles helping?**
 - Mobile devices are easily helping more of the country's population connect to the internet and each other.
- 5. In design terms, what differentiates the Internet from earlier networks such as the Telephone and Telegraph networks?**
 - The internet is different from earlier networks in that it focuses more on connecting to each other wirelessly.
- 6. Was there a particular logic in Vint Cerf's choice of a 32 bit address space for IP V4 addresses?**
 - No, Cerf thought he was just running a simple experiment, which he didn't imagine would go on to work and grow.
- 7. How do digital signatures relate to closing an important vulnerability in the DNS system?**
 - Digital signatures can bind a domain to an IP address.
- 8. What is a sensor network? Give an example.**
 - A sensor network monitors and collects information on the conditions at different locations. An example would be a device that collects information about the amount of traffic on a freeway at certain times.
- 9. Why is cloud collaboration important?**
 - Cloud collaboration is important because we want to be able to move data back and forth or share with another cloud based server.
- 10. What is strong authentication? Why is the lack of this an issue?**
 - Strong authentication is used to identify and verify communications. The lack of this is an issue because if the authentication does not exist, anyone can attempt to gain access to the information available

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11. What does Cerf cite as a problem with the Internet and copyright?

- Cerf cites that a problem with the Internet and copyright is that what is created today might not be interpreted the same way in the future.

12. What does Cerf mean when he talks about rotten bits? Give an example.

- Cerf is referring to data decay when he is talking about rotten bits. An example could be a program that was made to be used with Windows XP may not work with today's Windows 10

13. Briefly describe the InterPlanetary Internet. In your description, describe how this solves the point to point InterPlanetary communications problem.

- InterPlanetary Internet would be an Internet that allows communication between planets by using DTN (Delay and disruption Tolerant) protocols. This would reduce delay when communicating over long distances.

14. In an Internet context, what is common carriage? What implications does this have for Internet billing?

- In an Internet context, common carriage states that the same rules must be applied to everyone else. For billing, it means that as long as you are under contract, you pay as much as everybody else even if you use the service more than them.

15. What does Cerf mean when he says that in the future, the network will disappear?

- Cerf meant that in the future, everything will be interconnected and network compatible