

MOOC ENVIRONMENTAL IMPACTS OF DIGITAL TECHNOLOGIES

3.2 Are digital services virtual?

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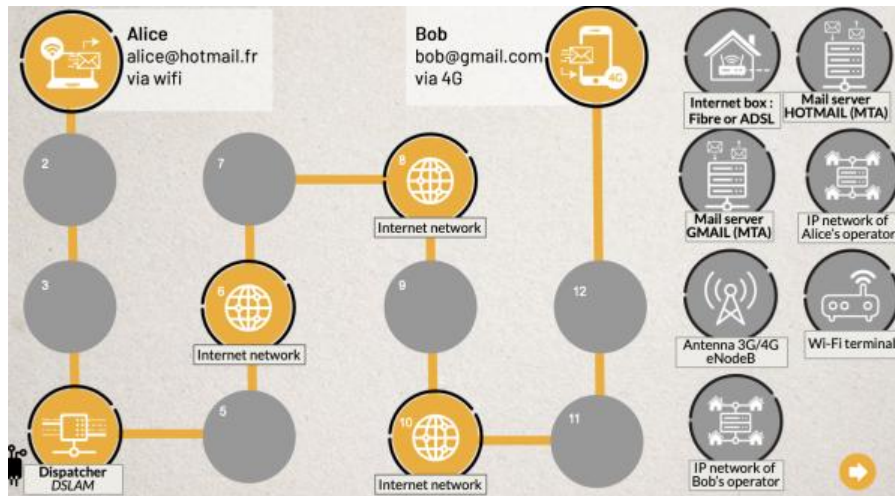
Activity 06 : An email journey

Sending an e-mail requires a complex infrastructure that depends on the terminals used, the e-mail services used by both the sender and the receiver. Let's look at this with a concrete example.

Capsule slide	Related text
<p>An email journey</p> <p>Let's imagine : Alice, sitting nicely on her sofa, sends a message, from her laptop connected via wifi, to Bob, who receives it a few seconds later on his smartphone connected to 4G.</p> <p>Magic? What's actually going on? What journey does the message actually make?</p> <p>Order all the actions: from the sending of an email by Alice from her Wifi connected laptop to the receiving of the email by Bob on his 4G connected mobile.</p>	<p>An email journey</p> <p>Let's imagine : Alice, sitting nicely on her sofa, sends a message, from her laptop connected via wifi, to Bob, who receives it a few seconds later on his smartphone connected to 4G.</p> <p>Magic? What's actually going on? What journey does the message actually make?</p>

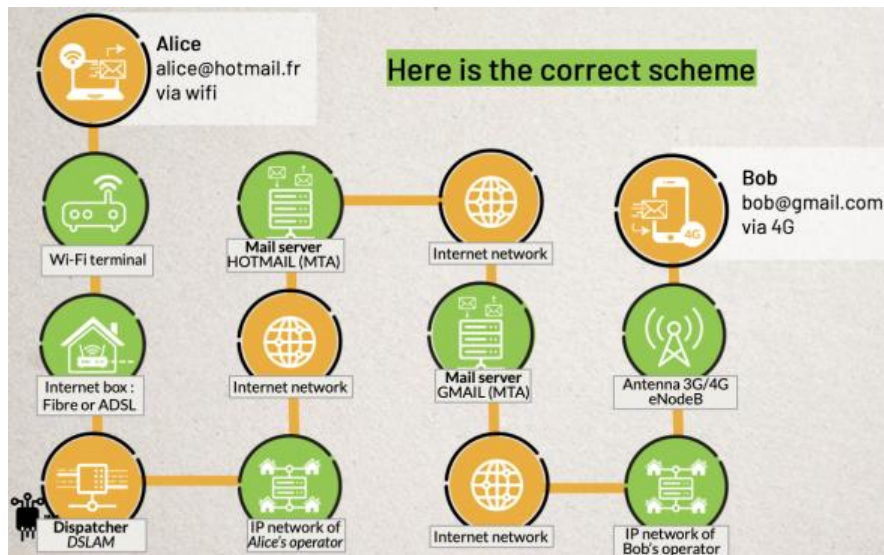
Capsule slide

Related text



Le schéma de départ :

1. Alice alice@hotmail.fr via wifi
- 2.
- 3.
4. Dispatcher DSLAM
- 5.
6. Internet network
- 7.
8. Internet network
- 9.
10. Internet network
- 11.
- 12.
13. Bob bob@gmail.com via 4G



Le voyage d'un mail :

1. Alice alice@hotmail.fr via wifi
2. Wi-Fi terminal
3. Internet box : Fibre or ADSL
4. Dispatcher DSLAM
5. IP network of Alice's operator
6. Internet network
7. Mail server HOTMAIL (MTA)
8. Internet network
9. Mail server GMAIL (MTA)
10. Internet network
11. IP network of Bob's operator
12. Antenna 3G/4G eNodeB
13. Bob bob@gmail.com via 4G

Capsule slide

Related text

It's not magical, but technological!

Sending an email requires a complex infrastructure that depends on the terminals, the messaging services used by both participants of communication.

Here the technological pattern is relatively simple. But if Bob had included about ten friends, it's like 10 messages sent individually: each message would have passed through its own reception server, to a different receiver. It quickly increases the complexity of the infrastructure!

Same for attachments that will be stored as many times as necessary!

To make a long story short, even if all this happens in just a few seconds! It's not magic!

Sources : [accessed : 15/12/2021]

[Comprendre la 4G, Mooc de l'IMT, YouTube, 2015](#)

[Comment ça marche Internet ? coursinfo.fr, 2016](#)

[Le guide de l'e-mail, arobase.org](#)

[Que se passe-t-il lors de l'envoi d'un email ? ionos, 2018](#)



An email journey

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