How "geography" can affect my Data Architecture

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+10 years in Microsoft "Data Realm"
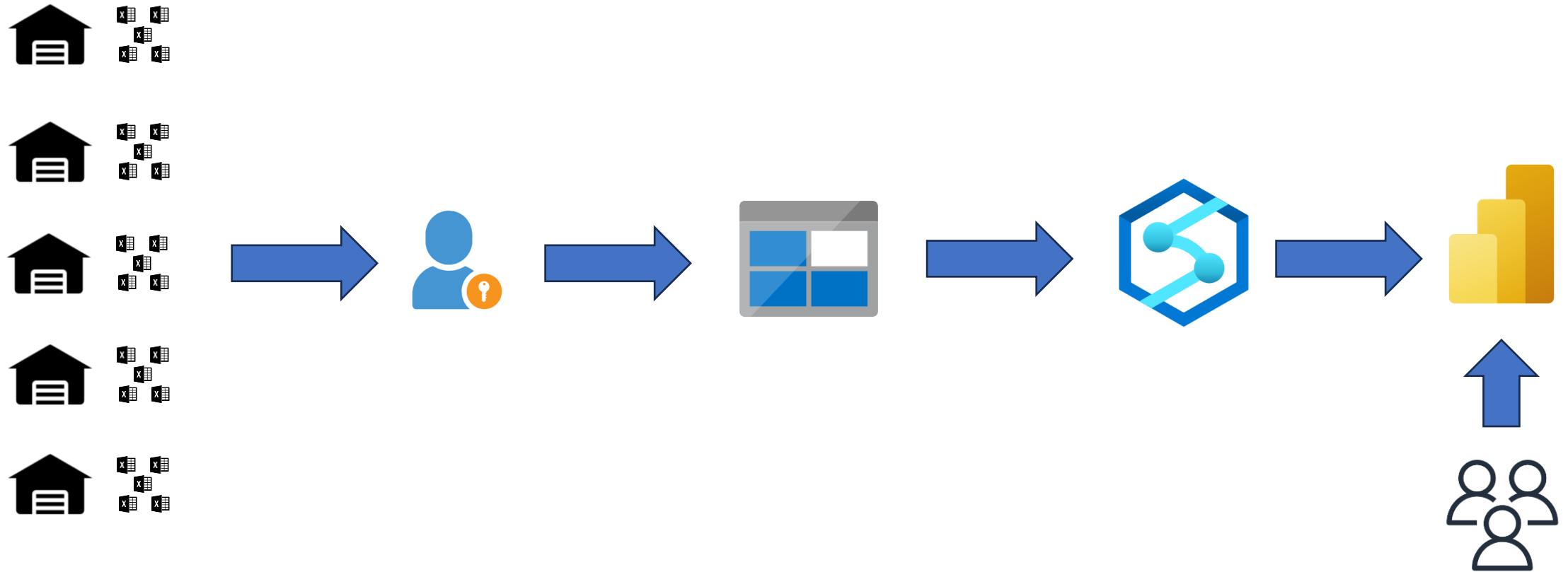
Giving my little contribution to the community

PASS

Power Platform World Tour

PowerBIUG

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DATA SATURDAYS

hn0va community
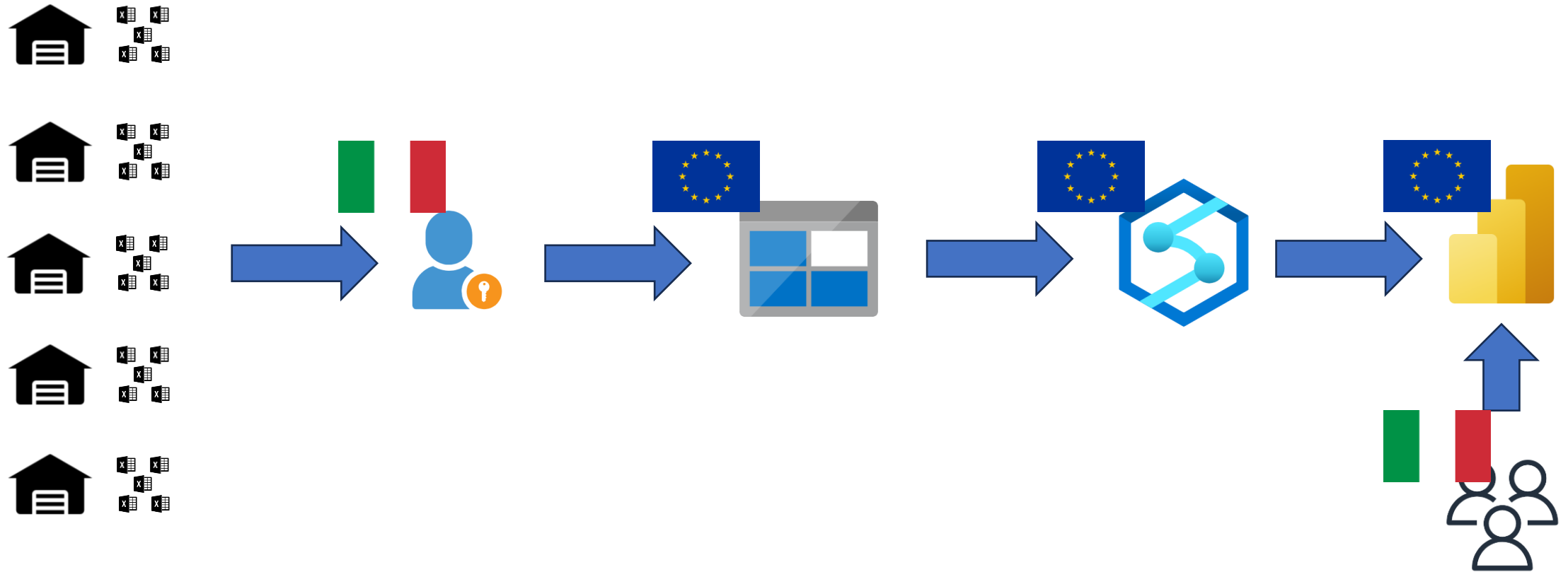
Dev>Marche

Scenario

Remember Young Padawan

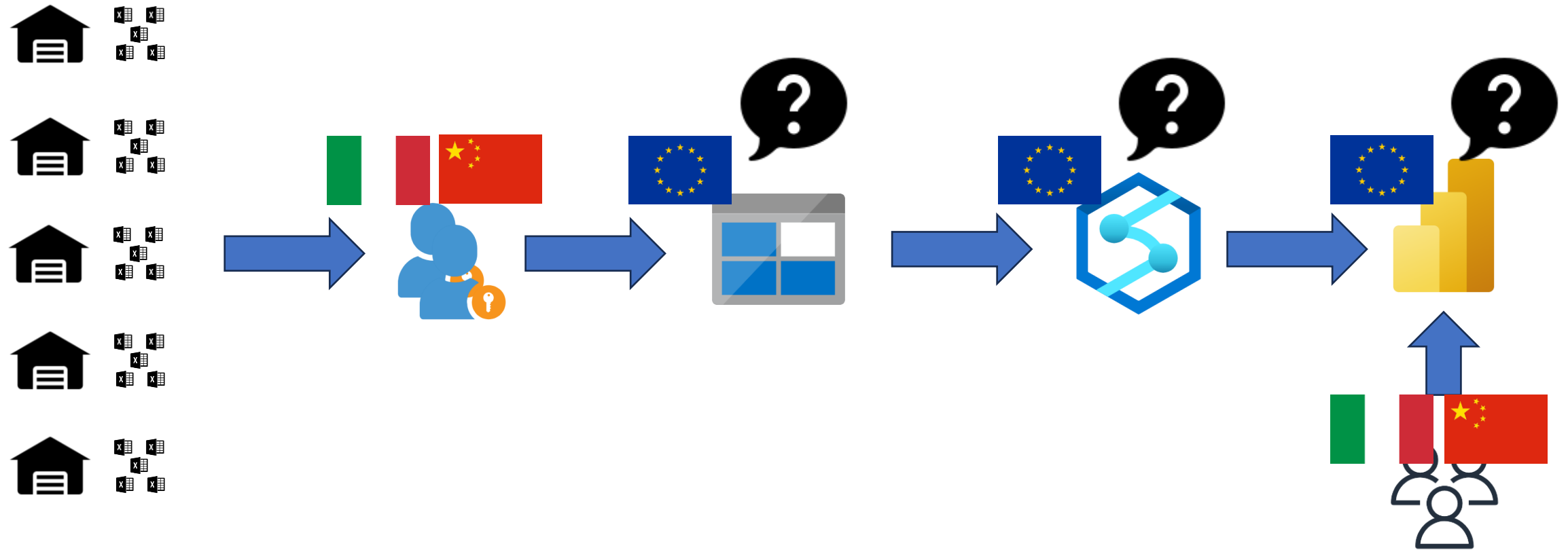*There's no Cloud*

It's just someone else's PC

Where are they?
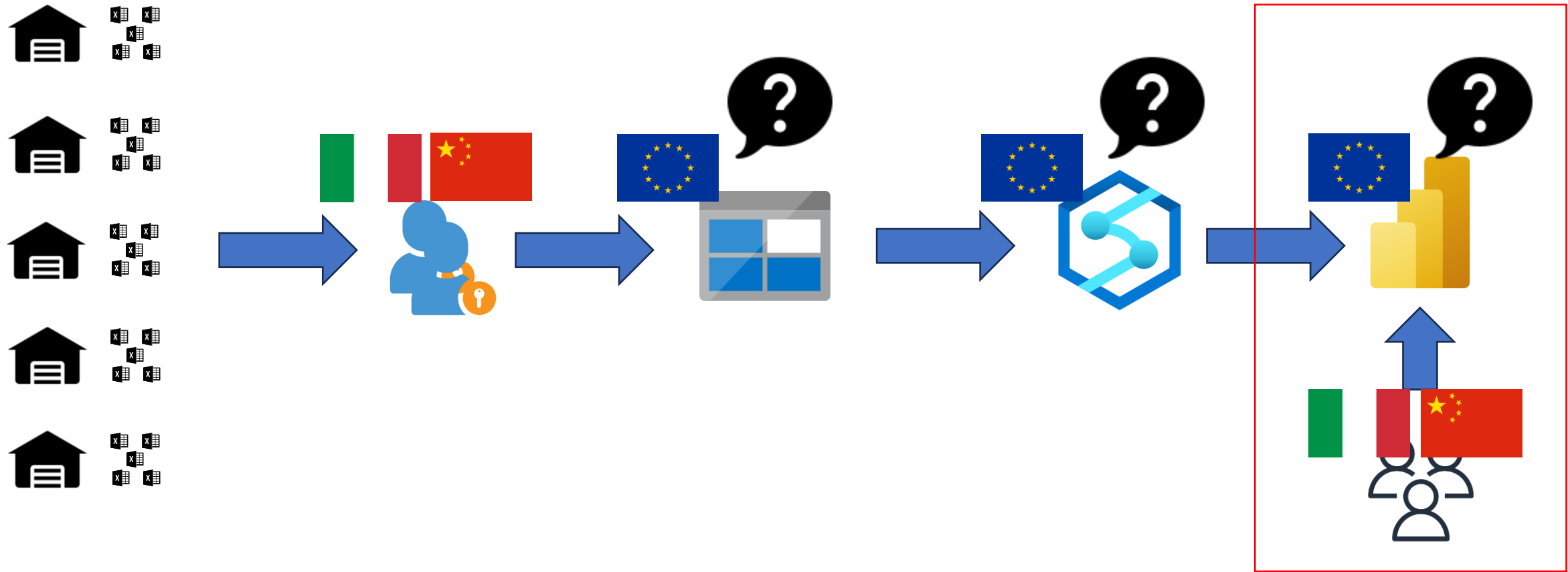
The Challenge

Where are they now?

Call of duty

- To use the same architecture
- To use the same back-end with different front-ends
- To use different back-ends and front-ends

To decouple or not to decouple?

- PRO
  - Services and data closer to clients
- CON
  - Need to keep environment aligned

Where are they now?

Power BI & Multi-Geo

- Pro: Not supported
- Premium: Supported

Let's test

The first tool we used is **Azure Speed Test**, a web based app that measures latency between browser and an Azure Region.

Azure Speed Test: result

- **Max latency**: 1.5 seconds

- **Min latency**: 200 milliseconds

- **Average latency** over 5 minutes tracking: 550 milliseconds
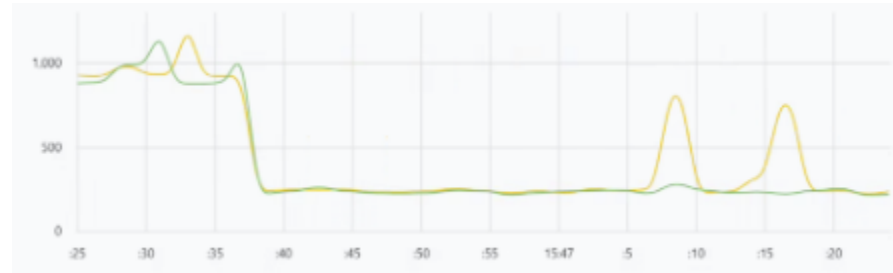
Another Check: Azure Speed Test 2.0

- The **average latency between Europe and China was 500 ms** that confirmed previous results.

Japan East	273ms	
Korea South	274ms	
Korea Central	274ms	
Southeast Asia	277ms	
Japan West	284ms	
East Asia	291ms	
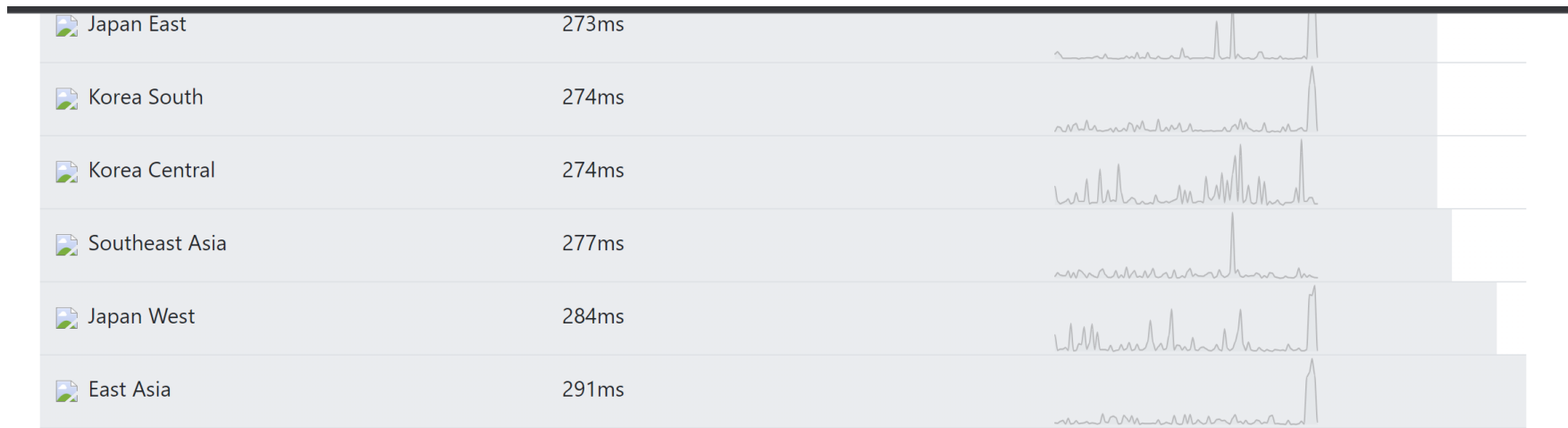
Test from Power BI Service: Dashboard

- **From Europe latency**: 55 ms -> **Green** light form the tool
- **From China latency**: 226 ms -> **Yellow** light from the tool

∧ 网络延迟   ●

服务器 ping 时间为 226 毫秒。这被视为 可接受。

Test from Power BI Service: Network

- Performing a **refresh on an already opened (cached) report** took 500 ms.

- Opening **another page in the same report** took 2 seconds.

- **Clear the cache and to open Power BI portal from scratch**. The entire request took 16 seconds.
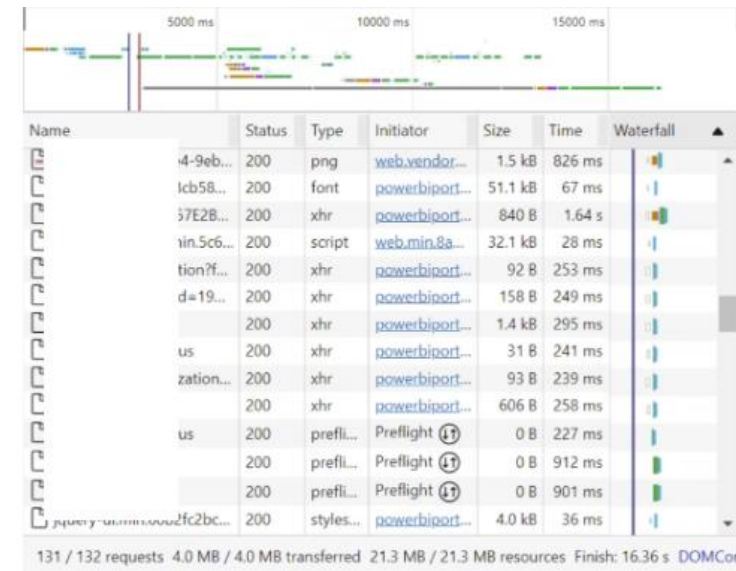
Test from Power BI: Results

- **Test 1** it's been almost impossible to feel the difference
- **Test 2** it's been almost impossible to feel the difference
- **Test 3** China browser had been 14% slower

Wrap Up

According to our tests network latency between China and Power BI Capacity located in Europe is around 400–500ms that is 4 times higher than European one but since we're talking about small numbers, the user couldn't feel the difference navigating the report.

We decided not to split architecture and to keep one single Power BI tenant located in North Europe.

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US Government Community Cloud High ›

US Department of Defense ›

End users can work with their administrators to submit tickets or can visit the Power BI community

Visit the community ›

Useful links

- Full story: http://tiny.cc/9egbvz
- Azure Speed Test: https://www.azurespeed.com/Azure/Latency
- Azure Speed Test 2.0: https://azurespeedtest.azurewebsites.net/

Q&A

Thank you!

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