



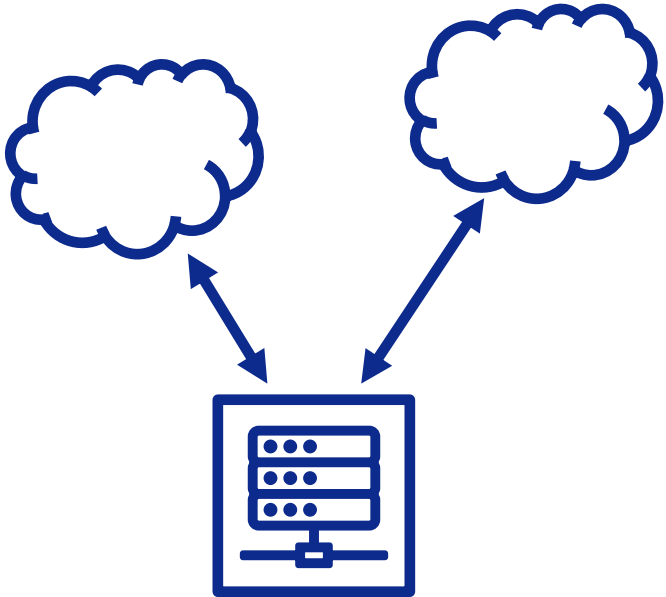
# STAC Update: Cloud Communications

Peter Nabicht  
President, STAC

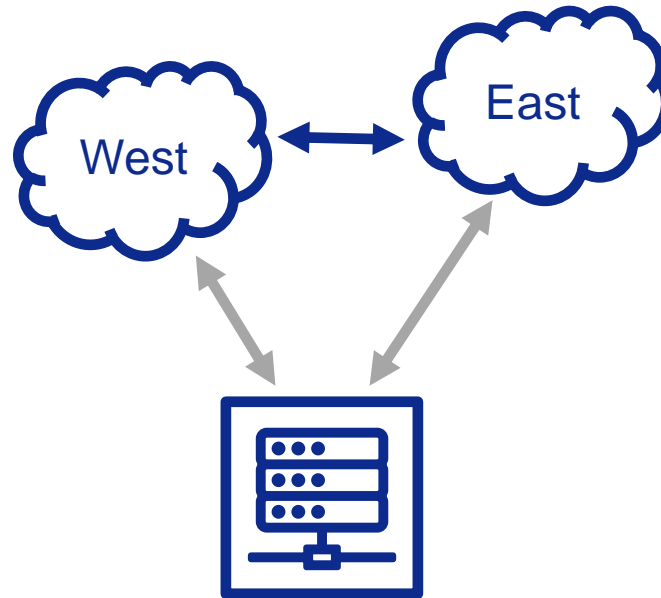
[peter.nabicht@STACresearch.com](mailto:peter.nabicht@STACresearch.com)

# Cloud connectivity latencies

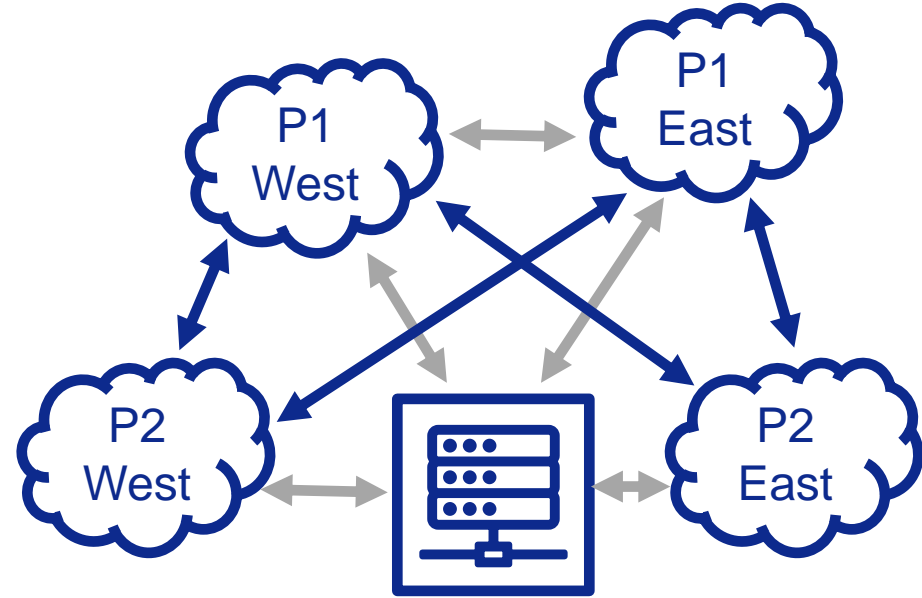
- For a given link, need to know:
  - Latency
  - Determinism



**On-prem  
to Cloud**

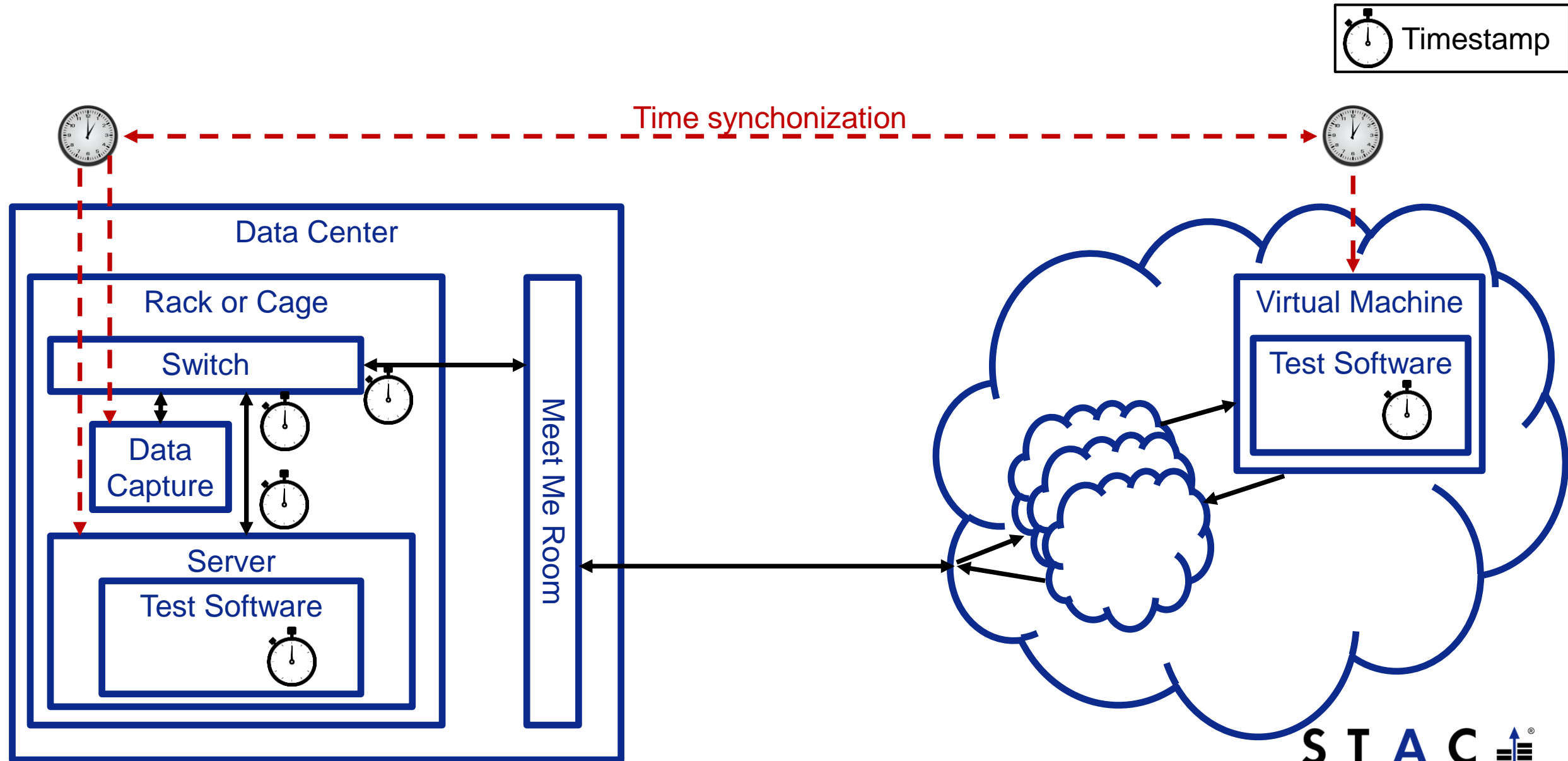


**Cloud Region  
to Cloud Region**



**Cloud Provider  
to Cloud Provider**

# High-level diagram: on-prem to cloud

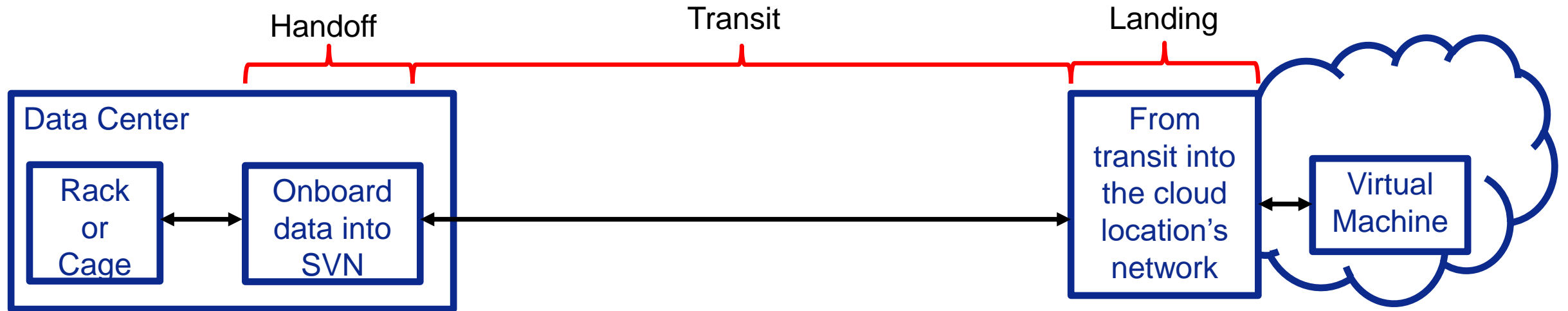


Timestamp

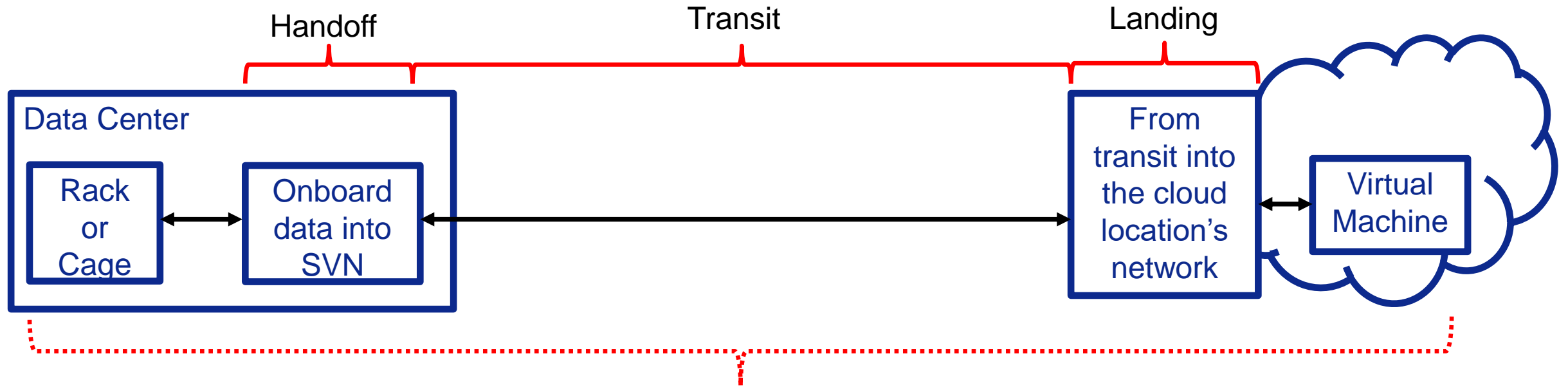
# Breaks into three separate measurements of importance

- Handoff from physical network to SDN (“handoff”)
  - At on-prem data center
    - Ex: handing cloud provider has a pop at the data center
  - At cloud
    - Ex: non-cloud provider network provider handing off at the cloud
- Landing zone (“landing”)
  - At the cloud provider, where the data comes in from the long haul and gets into the cloud’s data center
- Transit (“transit”)
  - The communication from the data center to the landing zone
  - Complication:
    - Where is the handoff? How does that change?

# Measurements: on-prem to cloud



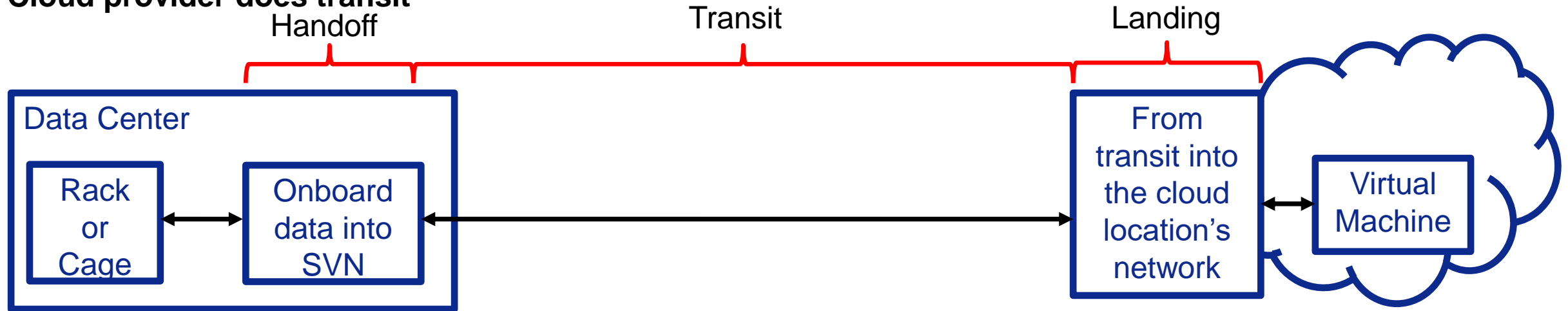
# Measurements: on-prem to cloud



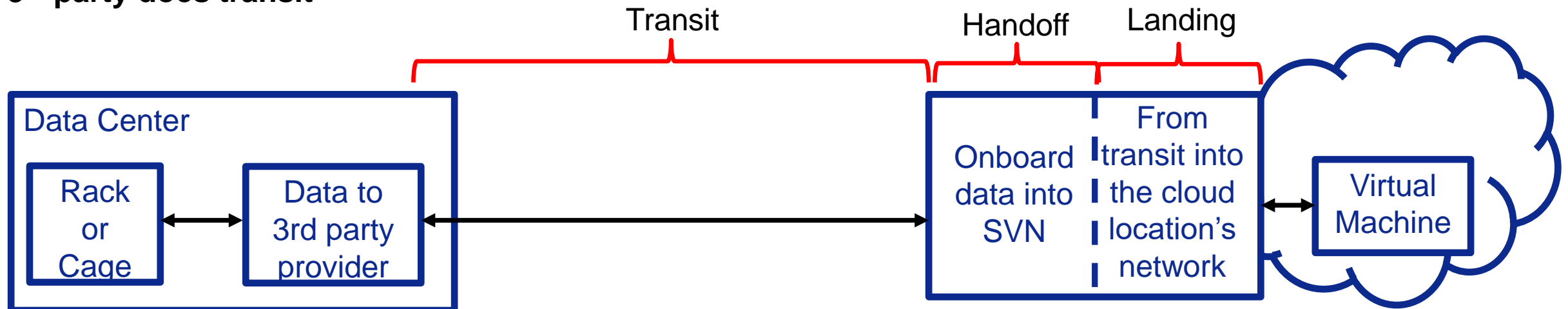
But what about full path?

# The challenge of the moving handoff

## Cloud provider does transit

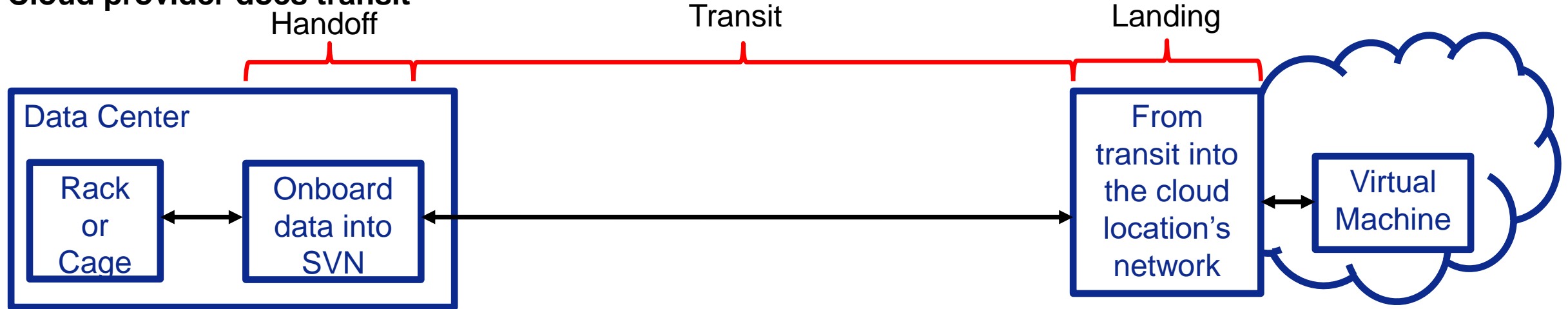


## 3<sup>rd</sup> party does transit

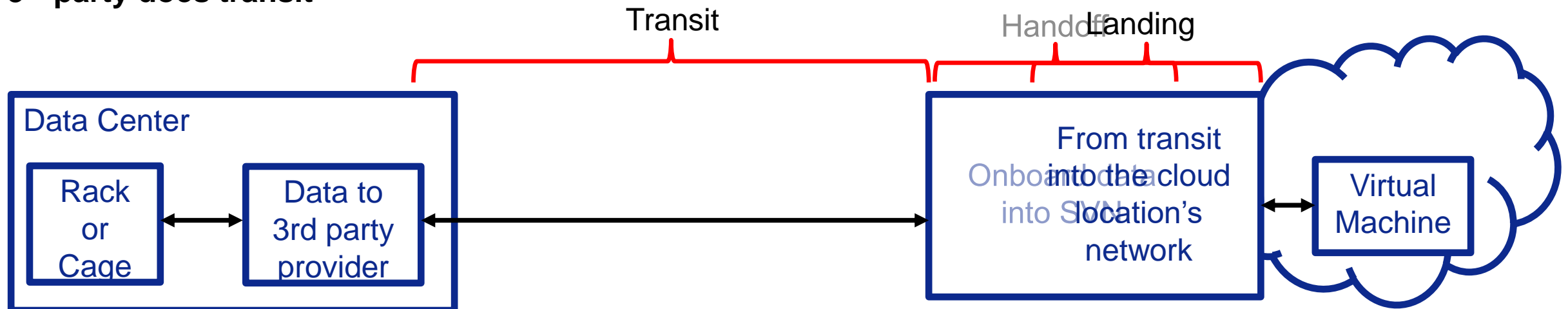


# The challenge of the moving handoff & getting cloudier

## Cloud provider does transit



## 3<sup>rd</sup> party does transit





# Next & future steps

- Next meeting second half of May
  - Refine the three different measurements
  - Define what time stamping is possible and break down into required and optional
  - While still allowing for apples-to-apples comparison
- Many requirements under discussion, including
  - Time sync, accurate time stamps
  - Hypervisor vs containers vs bare metal
  - How long to measure
  - How many measurements
  - Include getting to the VM? If so, how many VMs?

**If you are interested in helping define specifications...**

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