

*Reaction to “Resource-freeing attacks: improve your cloud performance (at your neighbor’s expense)”*

**1) Technical details ( approach/technique) that you found novel/ Something specific you learned that you didn't know before**

The authors have mentioned a novel method of attacking victim VMs hosted on the same physical machine with the one controlled by attackers. If the victim is providing an open service like HTTP, the attackers generate a heavy traffic of requests to the victim, exhausting the virtual CPU credit it holds. Lack of CPU credit, the victim will not be able to respond to the incoming network request at the first time. This will provide the VM controlled by the attackers a chance to get more resource than they should because of the inactivity of its competitor.

**2) Could I have done this work if I had the idea why or why not?**

I think I can do the work if I have the idea. The experiments they have done requires a setup of local Xen VM system and the using of Amazon EC2, which are all available to us.

**3) Is there anything I could do to repeat or validate?**

I can setup two VMs on Amazon EC2, as the authors had done in the paper, and verify whether they are allocated to the same physical machine using CPU cache covert channel

**4) What is my best idea for follow on work that I could personally do?**

I am personally interested in thinking of a better way to isolate the resource shared by VMs hosted on the same physical machine.

**5) What is my best idea for follow on work that I'd like to see the authors do?**

As the author mentioned in the paper, this attacking method has a lot of limitations. I want to see the author to have more analysis on the attacks that can be conducted in that situation.

**6) Any logistical experimental lessons I learned?**

Amazon EC2 is once again used as the testbed of VM related tests, which we had learned in previous papers.

**7) How does this compare to the other papers we read? Most similar? How different? Other comparisons?**

Last year we have read a paper “Get out of my cloud”. This paper can be seen as a following work based on that one. They both target at VMs hosts on the same physical machine. The previous one figures out the possibility to determine whether two VMs are hosted on the same physical machine. The second one then use this information to conduct attack based on resource competition.

**8) What is your biggest criticism of the paper?**

This paper is really fantastic and it opens a door to a new area of conducting attacking. However, they focus on Network-Cache attack and didn't have an in-depth analysis to other types of attacks. I feel like it makes the paper incomplete and I am hoping that in the future work it would better if they cover more topics about other attack pairs.