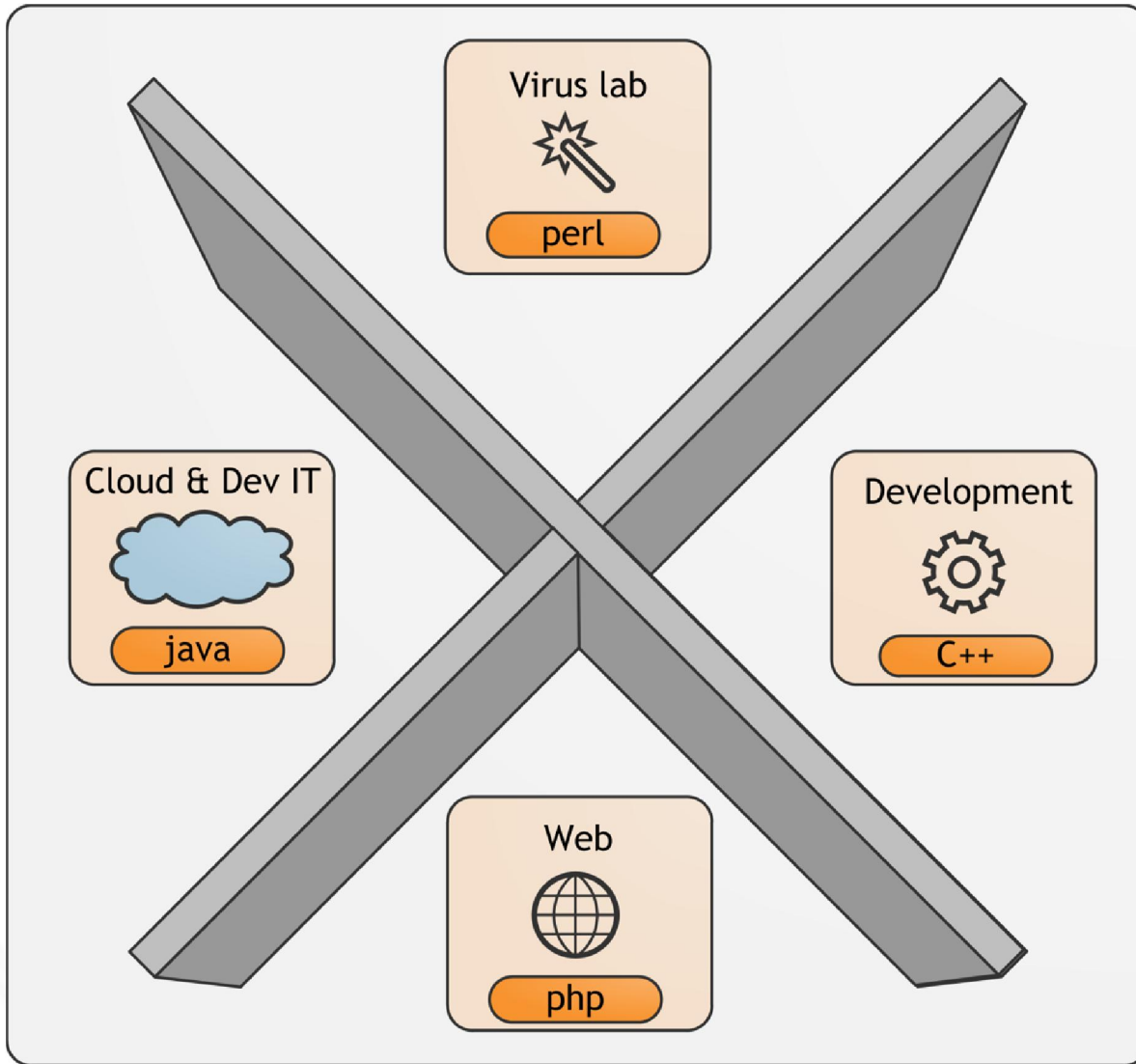




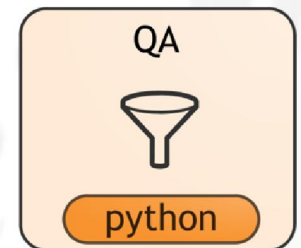
Testing a New Release Every 3 mins

Petr Chytil
AVAST Software a.s.

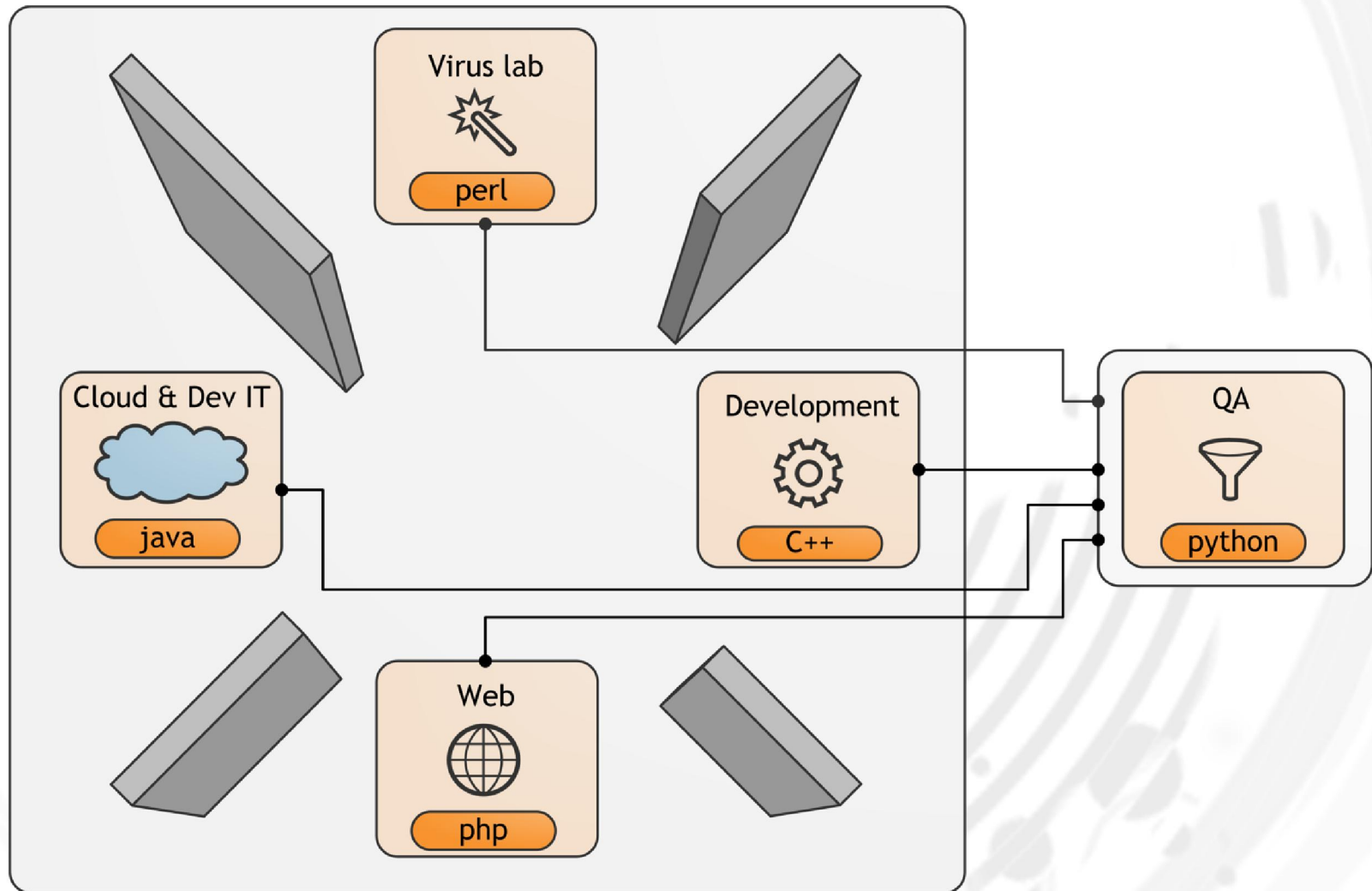
Department map in Avast



?



Department map with QA dept.



Malware x AntiVirus Arms Race

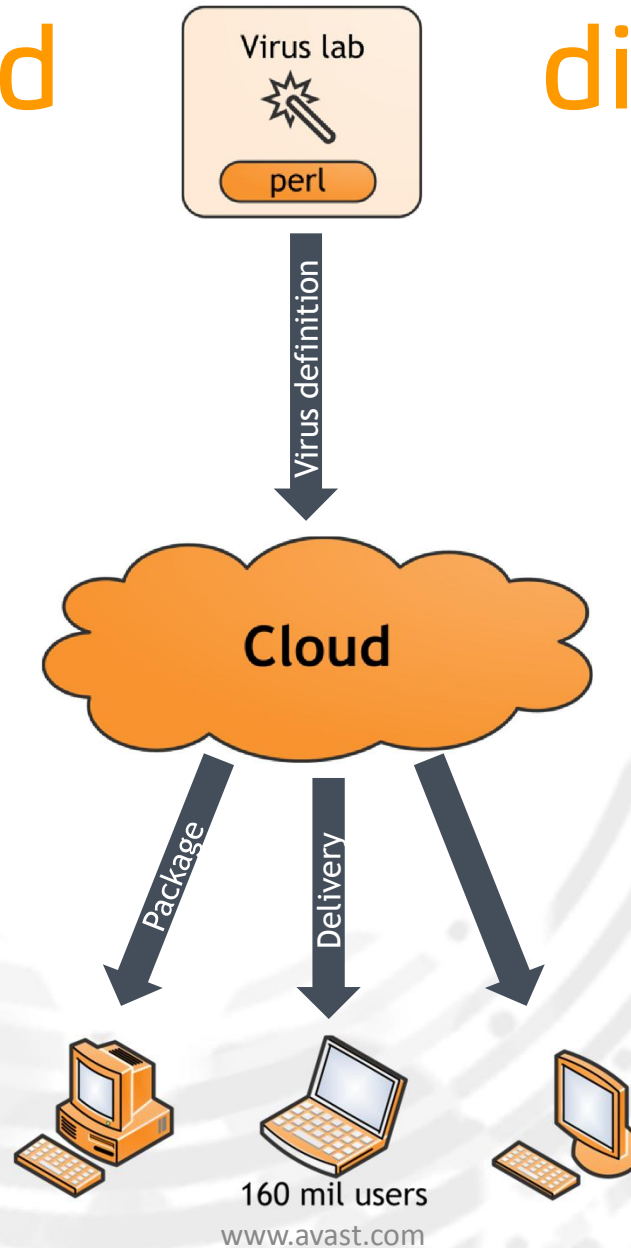


Getting Updates from the Cloud

- AVAST Streaming Updates
- Pushing new virus definitions to clients continuously
- Hybrid solution, clients still pull two or three virus definitions during the day
- Virus definition generation:
 - Fully automated
 - 10 engines, 5 for streaming updates
 - Community based
- Backend:
 - High performance Java application, 40 millions concurrent connections

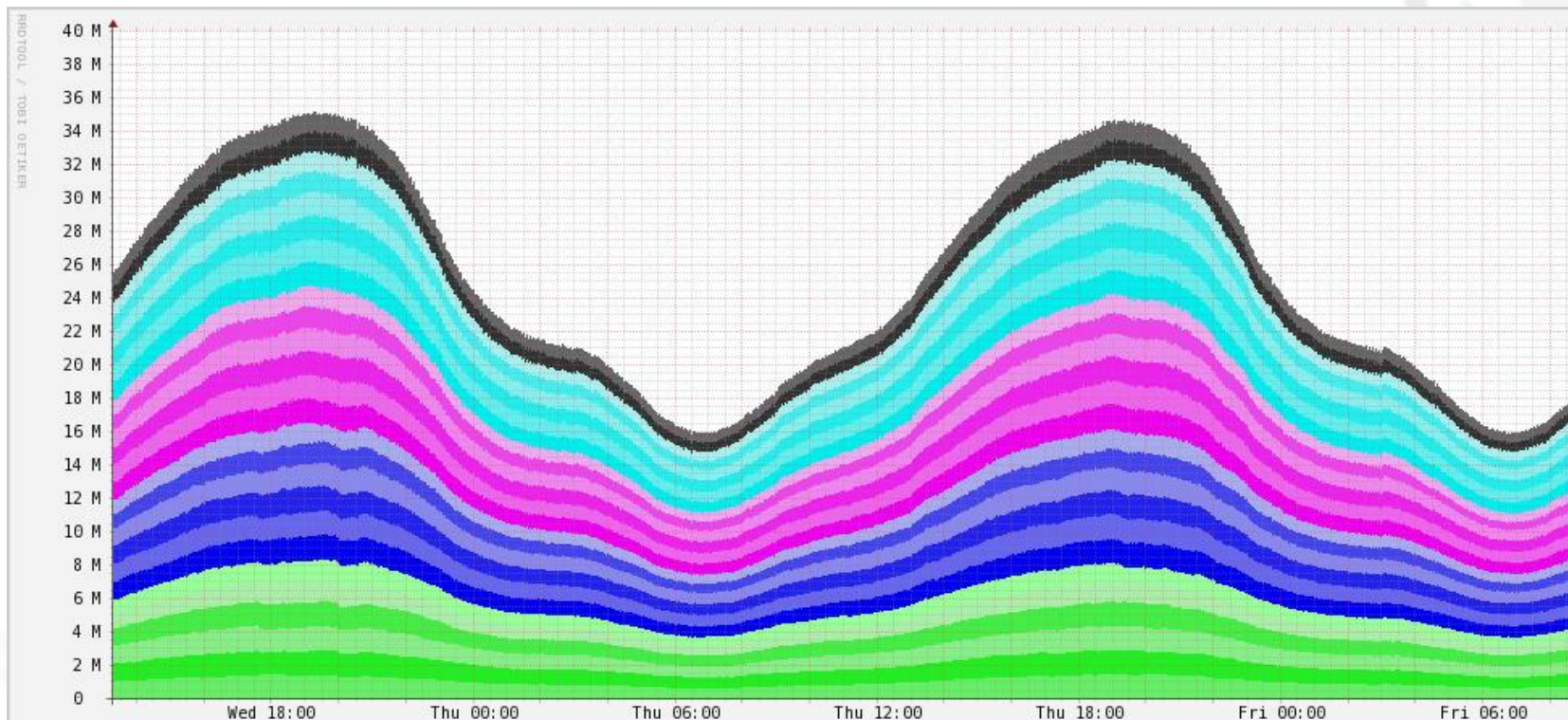
The Cloud

distribution

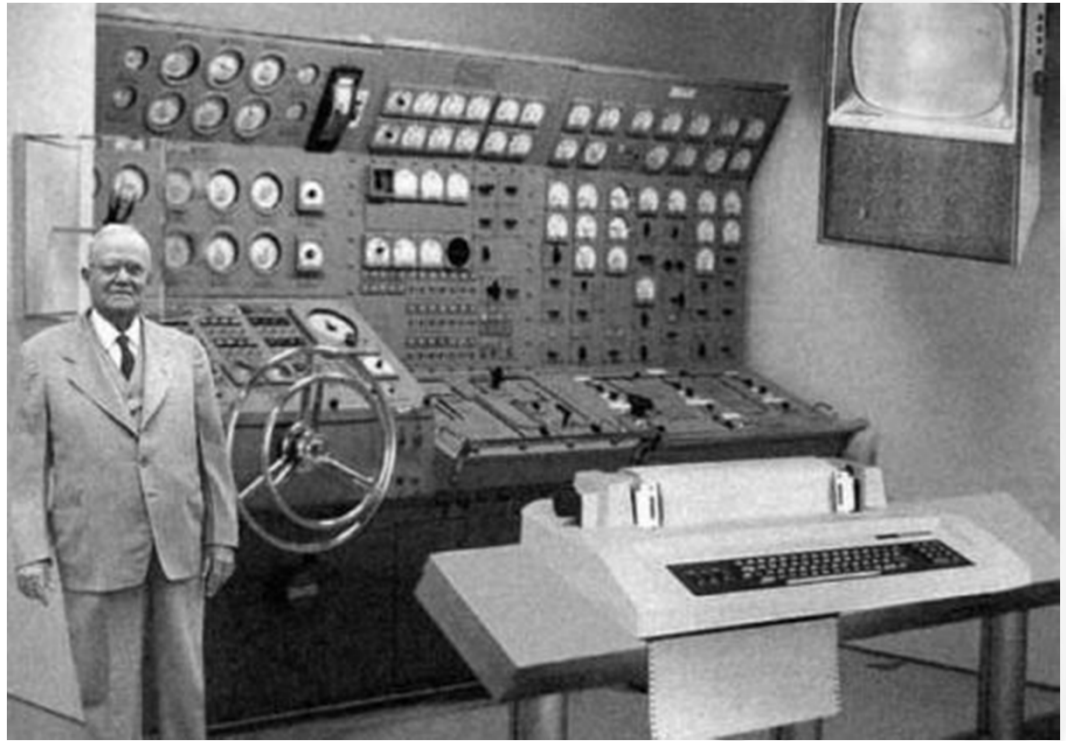


The Backend

- 40 millions concurrently connected users
- 2 millions connections per server in peak

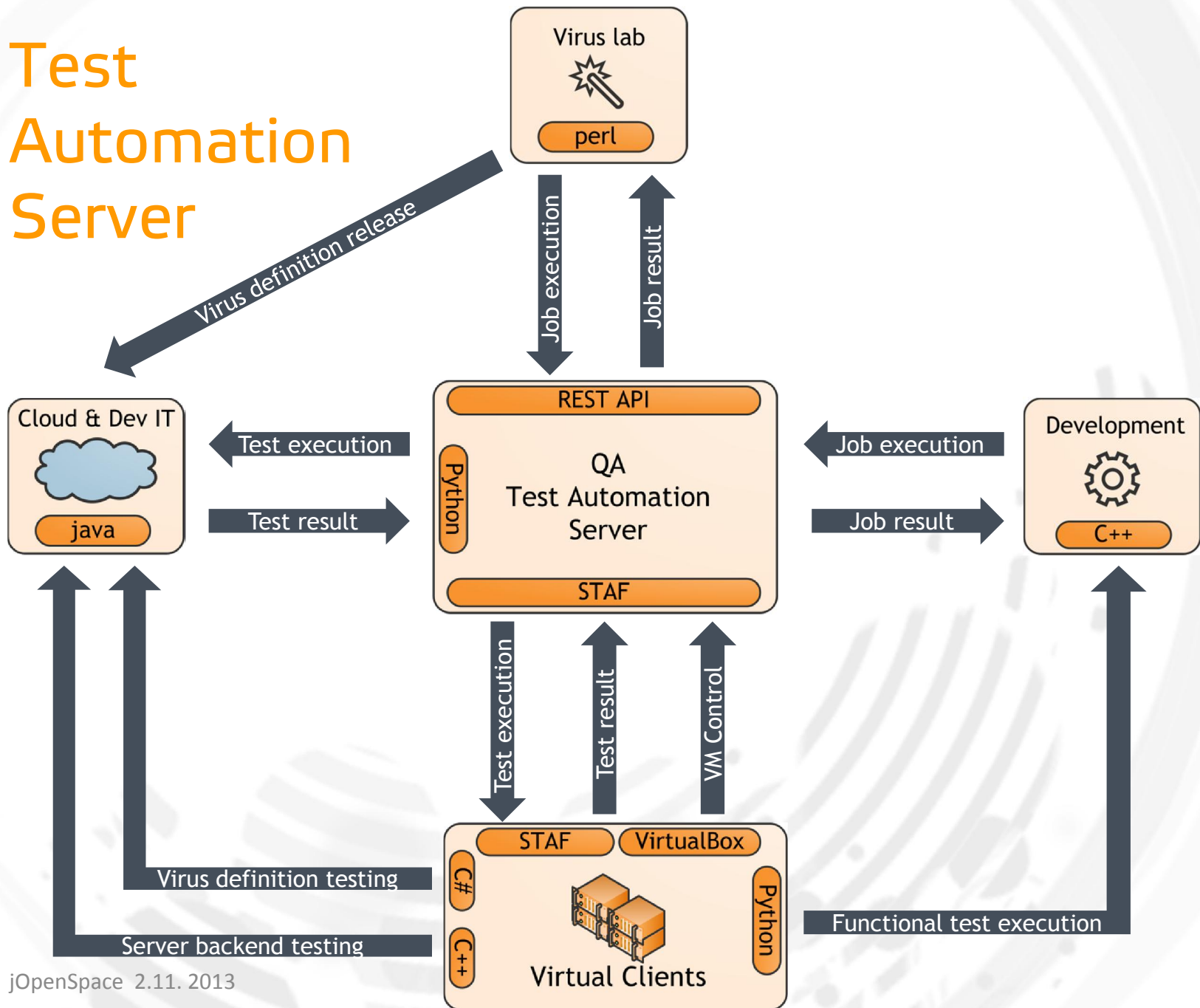


Testing The Cloud



- Every streaming update has to be tested
- Integrate smoke tests into **existing viruslab infrastructure**
- Build infrastructure implemented in perl
- Every 3-5 minutes, small package of virus definitions is distributed to over 200 million users
 - But, do not break their computers

Test Automation Server



Jenkins – Test Automation Server

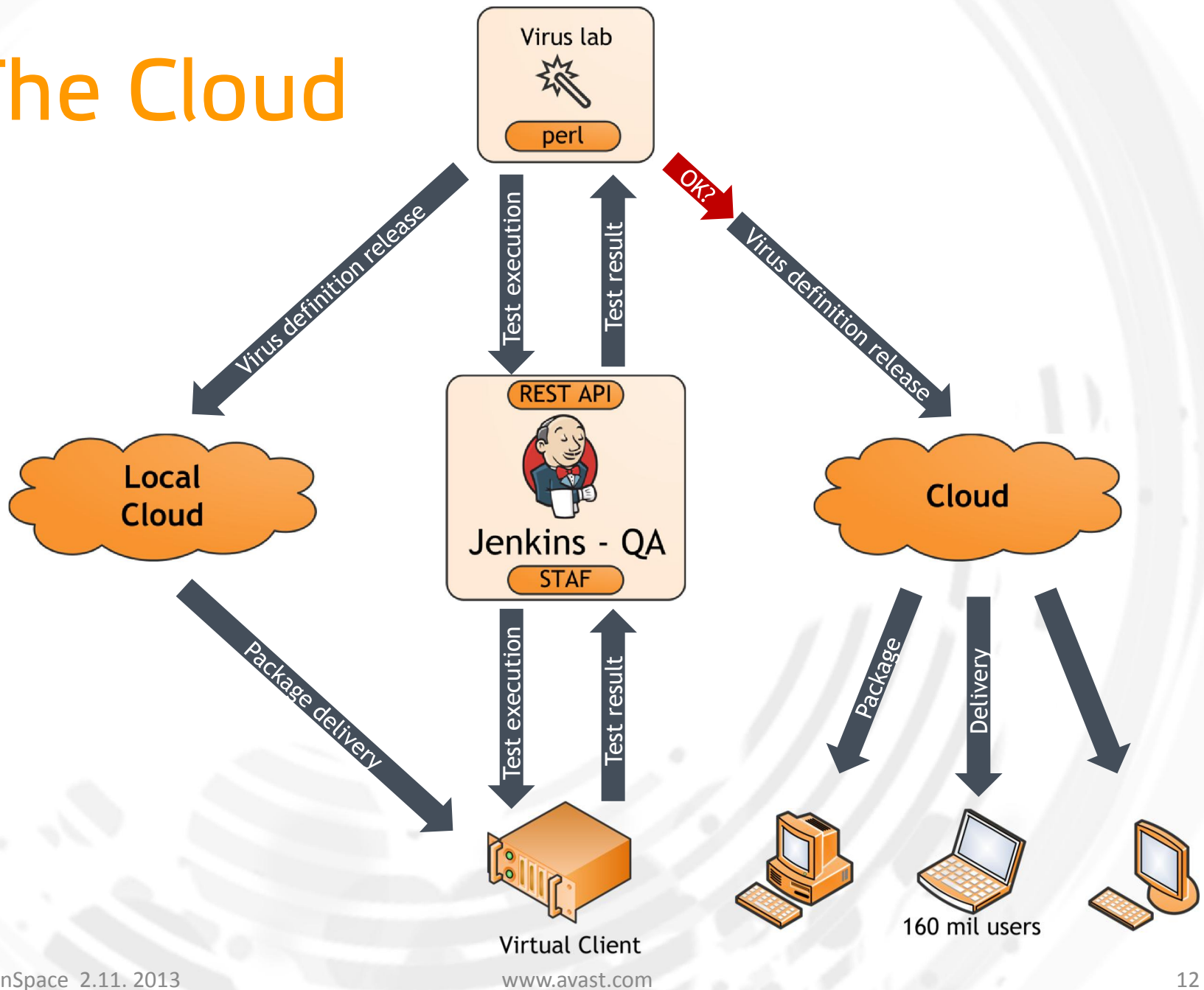
- Centerpiece of our testing infrastructure
- We use Jenkins CI
 - An extendable open source **continuous integration server**
 - Runs and monitors repeated jobs, e.g. builds software projects
 - Main features:
 - Quick setup and configuration
 - Test results reporting, archiving
 - File fingerprinting
 - Tons of existing plugins
 - And much more



The Cloud - solution

- Functional (or integration?) tests implemented in C#
- Tests have to be 100% reliable ...
- The environment: Windows OS guests in VirtualBox
- Remote test execution using STAF framework
- Integration of Jenkins job into the perl build script using Jenkins REST API

The Cloud



Conclusion

- Even integration tests can be:
 - Fast
 - Reliable
 - Fully automated

- Do not take “it cannot be tested” as an answer

Questions and Answers

Contact info

Petr Chytil

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Appendix - Technologies

- Jenkins <http://jenkins-ci.org/>
 - Parametrized Trigger Plugin
 - Build Pipeline Plugin
 - Robot Framework Plugin
- STAF <http://staf.sourceforge.net/>
- VirtualBox <https://www.virtualbox.org/>
- Sikuli <http://www.sikuli.org/>
- Selenium <http://www.seleniumhq.org/>