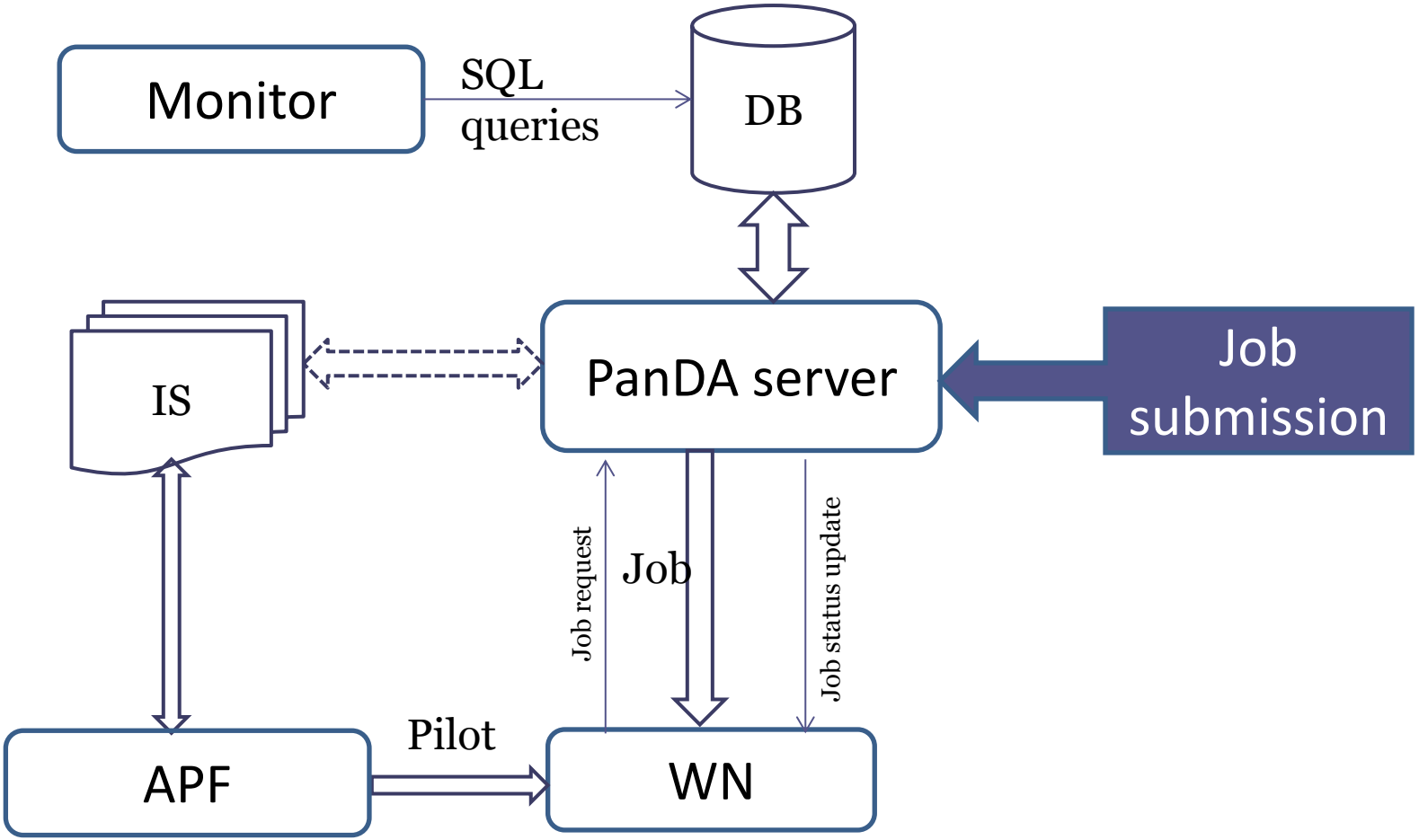
New PanDA site for HPC@NRC KI (R.Mashinistov)

- Supercomputer HPC2 (peak performance 122,9 TFLOPS)
  - Currently 2 WN of HPC2 are dedicated to ATLAS:
    - WN: 2 CPU Intel(R) Xeon(R) CPU E5450@3.00GHz (4 cores)
  - CVMFS installed on WN's (provides access to ATLAS SW)
  - T1 SE sdrm.t1.grid.kiae.ru is used for in/out data
- New PanDA site is defined within ATLAS T1 site RRC-KI-T1
  - ANALY_RRC-KI-HPC
- APF installed localy @ RRC-KI
- Site currently passing Releases validation
- User analysis tasks for MEPhI
  - RAW to D3PD reconstruction of high mu pp events (up to 70 interactions) for TRT performance at high occupancy study. (PhD Dimitry Krasnopevtsev ATLAS TRT SW group)
- Biology tasks via PanDA server @ NRC KI (PanDA client/ submitJobs)
  - Genomics sequencing

PanDA components interaction scheme



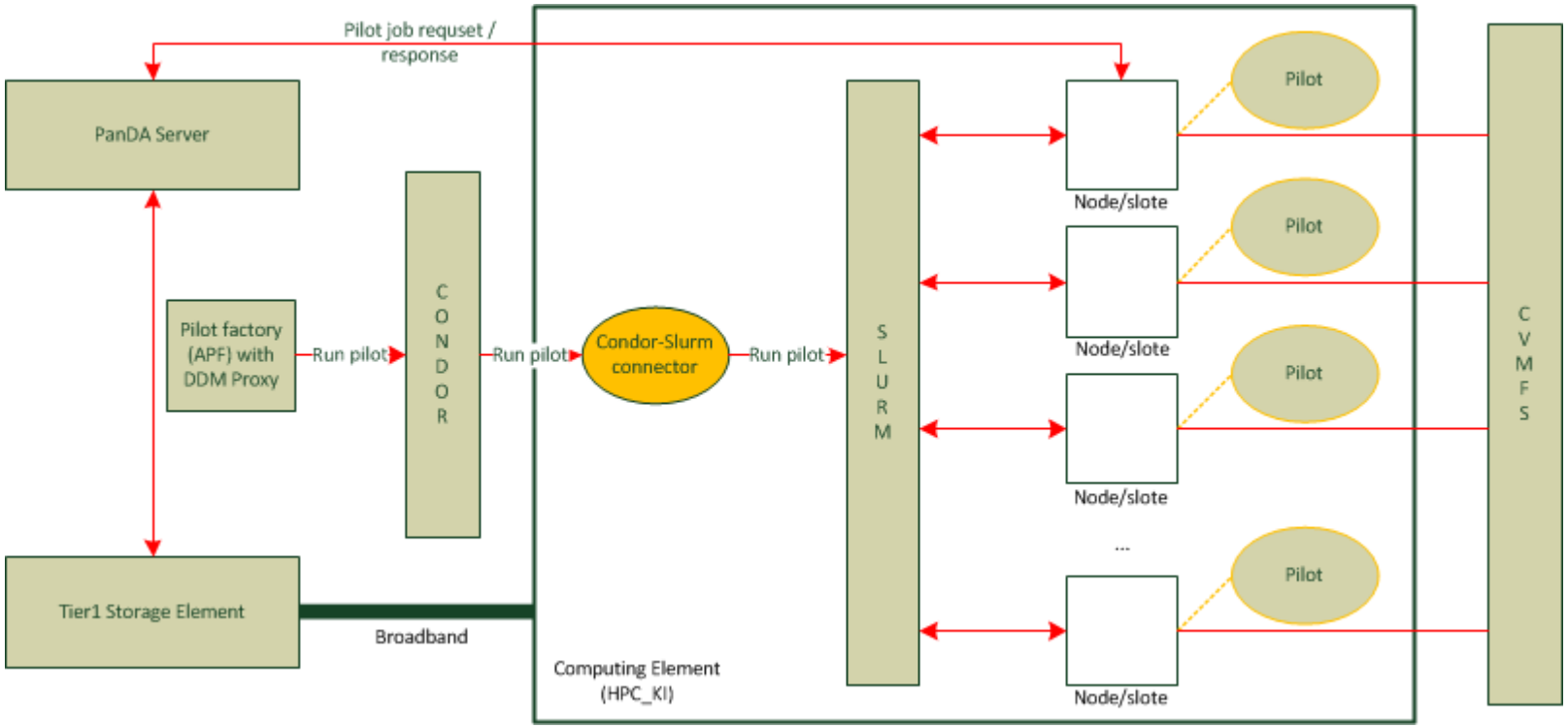
- Simplified PanDA components interaction scheme

Basic goals

- Rework the standart APF+Pilot code adopting it to HPC architecture
- Provide the ability to run parallel tasks on HPCs

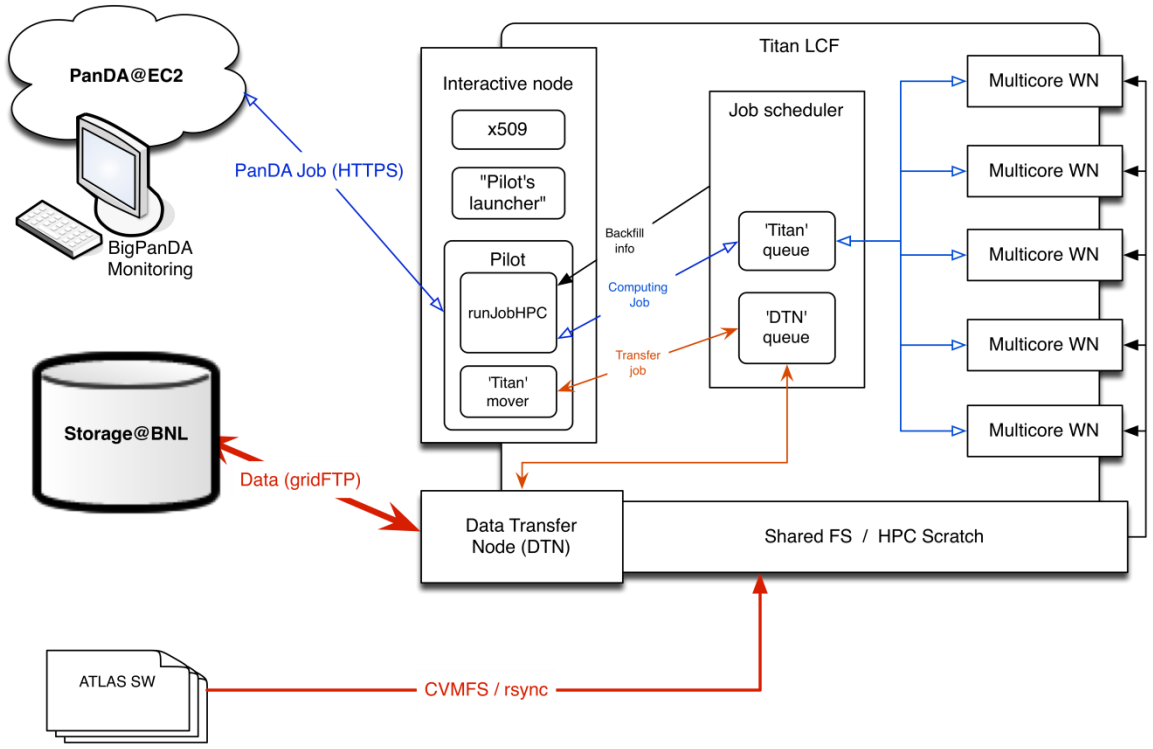
Current architecture of PanDA @NRC-KI for HPC

- Every WN has an internet access
- Pilots are running on WN's
- Pilots number = Cores number



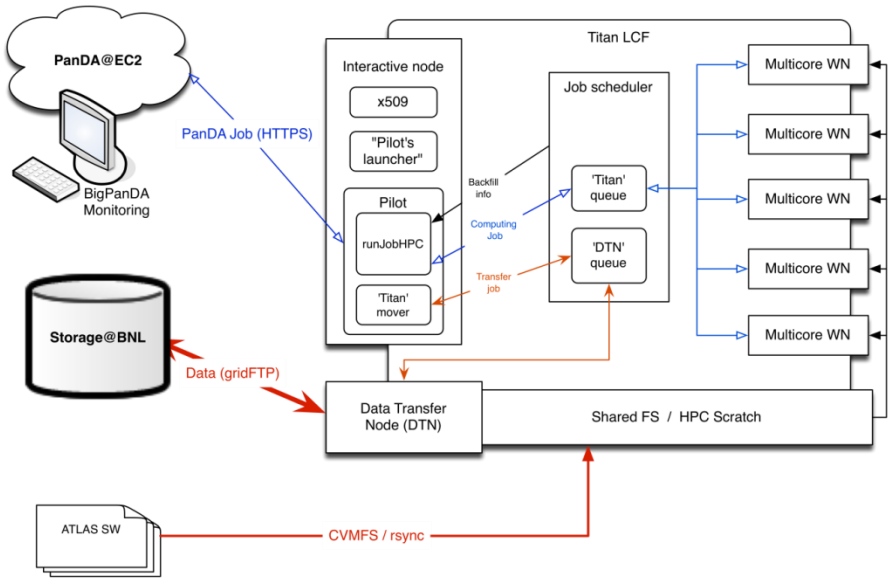
Current architecture of PanDA@HPC_Titan

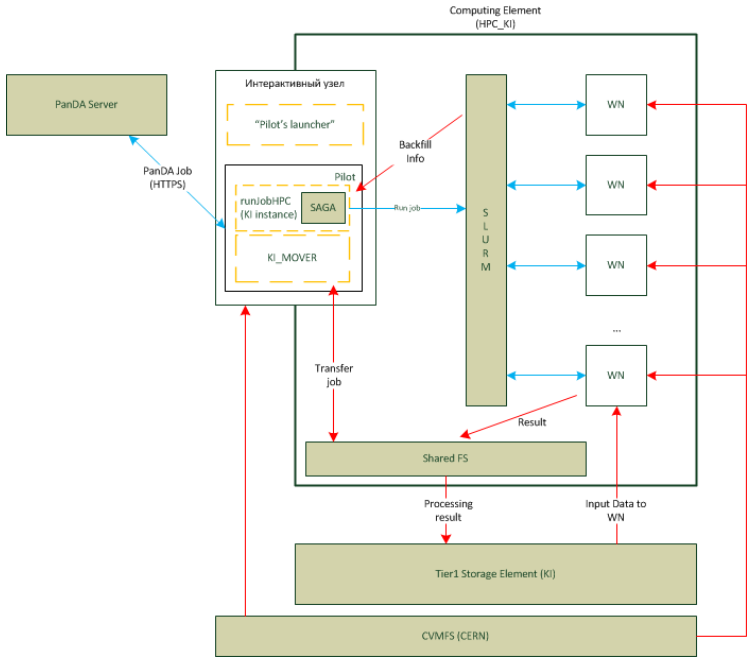
- Pilot(s) executes on HPC interactive node
- Pilot interact with local job scheduler to manage job
- Number of executing pilots = number of available slots in local scheduler



Отличие двух архитектур

- Архитектура КИ использует свою реализацию «RunJobHPC» интерфейса пилота.
- В архитектуре КИ данные задача, запущенна на WN имеет доступ к CVMFS и к данным, хранящимся на Tier-1 КИ, поэтому объекты «Mover» и схема перемещения данных будут отличаться.





Our proposal

- Pilot(s) executes on HPC interactive node
- Pilot starts the task on WN(‘s) via SLURM
- Running tasks are have access to Tier-1 (data) and to CVMFS (SW)