Wigner Datacenter cooling system upgrade

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Agenda

• Datacenter and cooling system structure
• Cooling problem
• Solution
• Future plans
Datacenter and cooling system structure

- 4 computer rooms
- 1200 kW heat load, unevenly distributed
- 2 cooling circuits, 7 chillers each
- 2 manifolds with 4-4 main pumps
- 40-42 LCPs per computer room
Cooling problem

- See previous site reports from Domokos Szabo and Szabolcs Hernath
- Coolant flow in manifolds was not designed well
- 7 chillers teamwork with one built in master
- Just control system not regulation
- Also separated mode software problems
- Manual control since 2015
Solutions

• Data collecting from the system
• New regulation system
  – Regulation by the power consumption
  – Superior master PLC
  – New software for chillers
  – New operation mode
• Still manageable on our old EBI system
Solutions (cont.)

- 1 chiller test
- 3 chiller test (now)
- Cooling circuit no 2 test
- Upgrade whole cooling system
Future plans

• With the new operation mode we can optimize our PUE
• LCP regulation optimization
• Raising the temperature
Thank you!