International Advanced Research Workshop on High Performance Computing
from Clouds and Big Data to Exascale and Beyond

Panel Session

Beyond Exascale Computing

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Moscow State University
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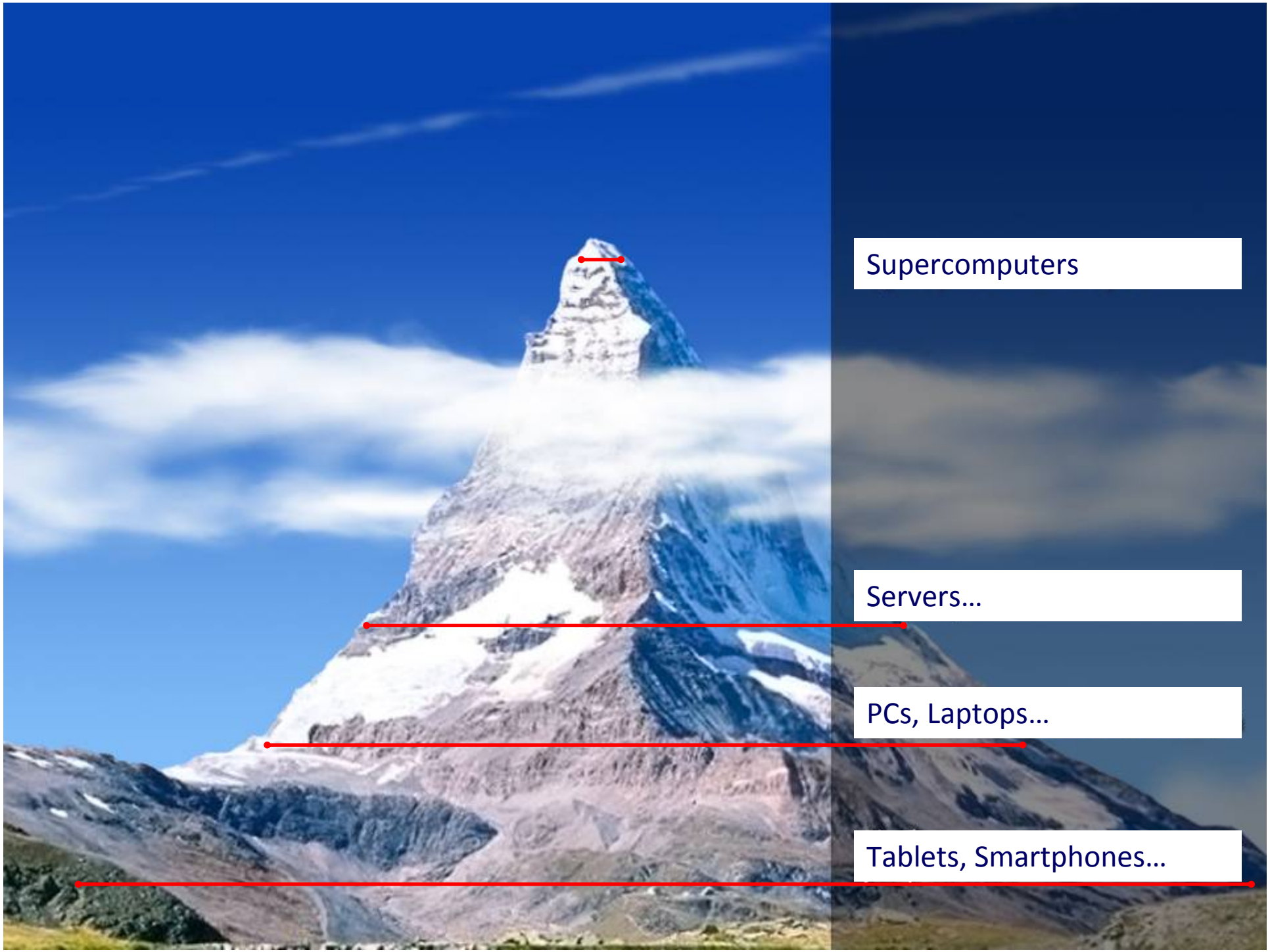
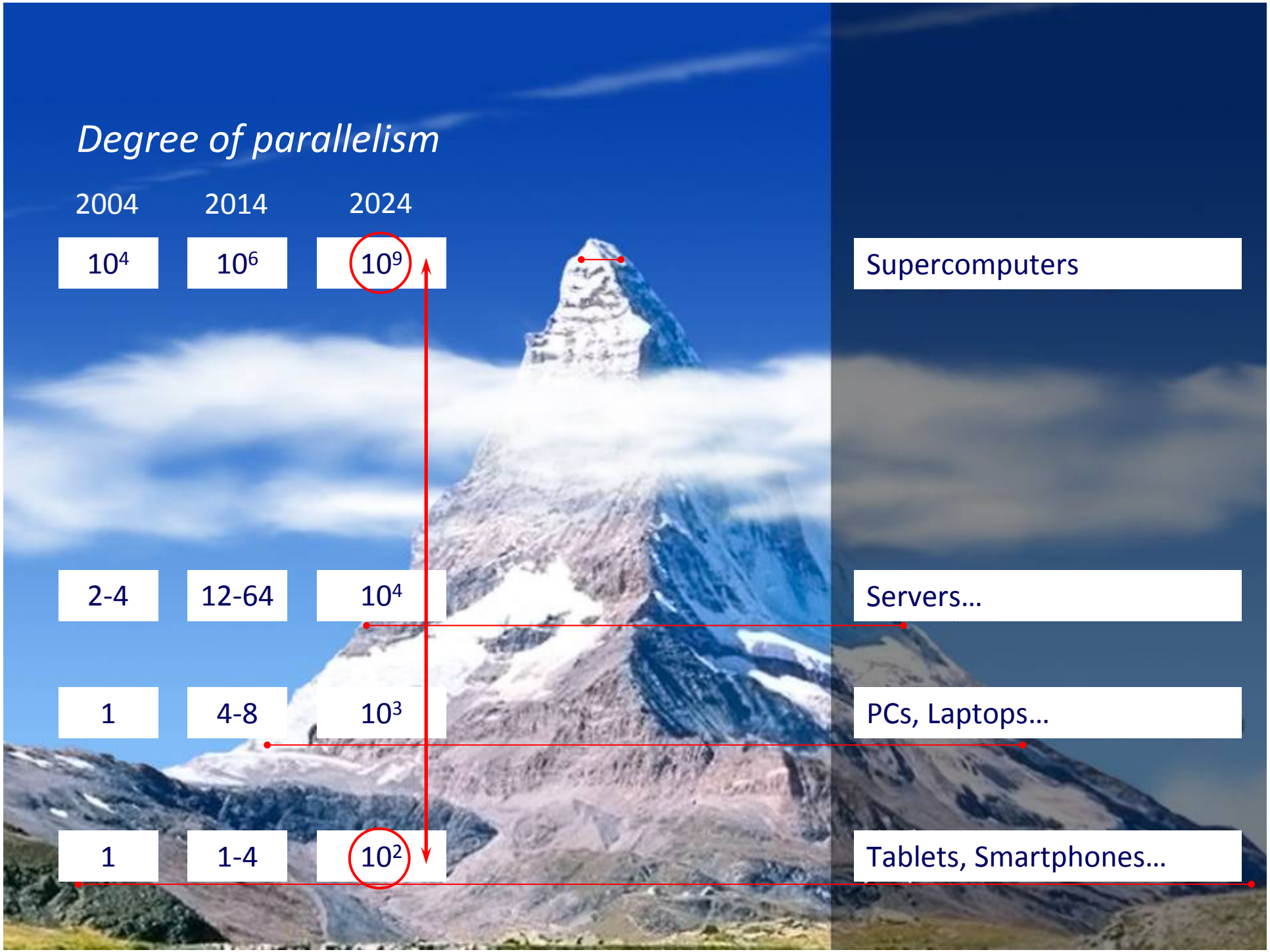
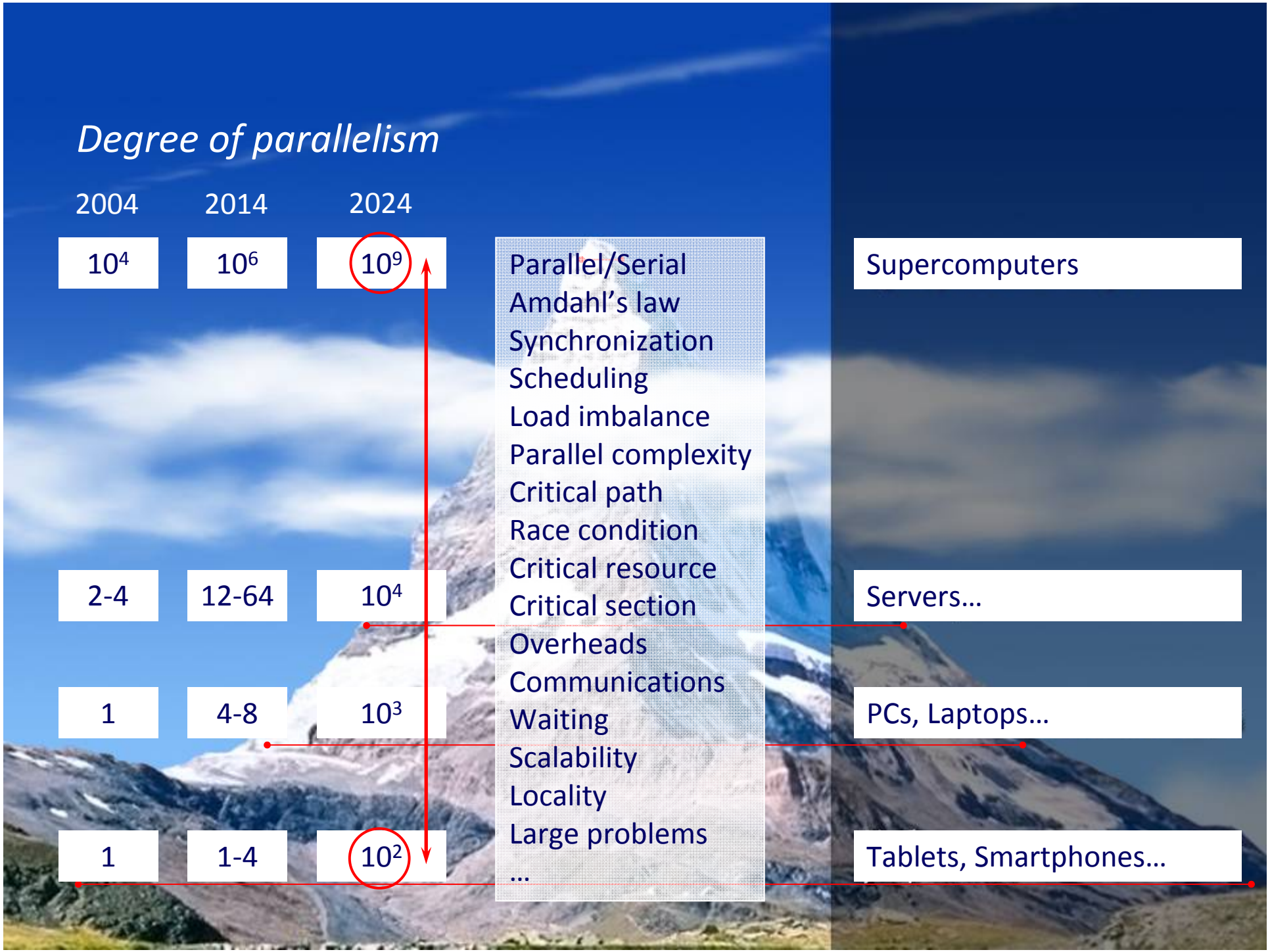
July, 9, 2014, Cetraro, Italy


Supercomputers
Servers…
PCs, Laptops…
Tablets, Smartphones…


Degree of parallelism
2004
2014
2024
10^4
10^6
10^9
Supercomputers
2-4
12-64
10^4
Servers…
1
4-8
10^3
PCs, Laptops…
1
1-4
10^2
Tablets, Smartphones…


Degree of parallelism
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10^4
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Parallel/Serial
Amdahl's law
Synchronization
Scheduling
Load imbalance
Parallel complexity
Critical path
Race condition
Critical resource
Critical section
Overheads
Communications
Waiting
Scalability
Locality
Large problems
…
Supercomputers
2-4
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Supercomputers

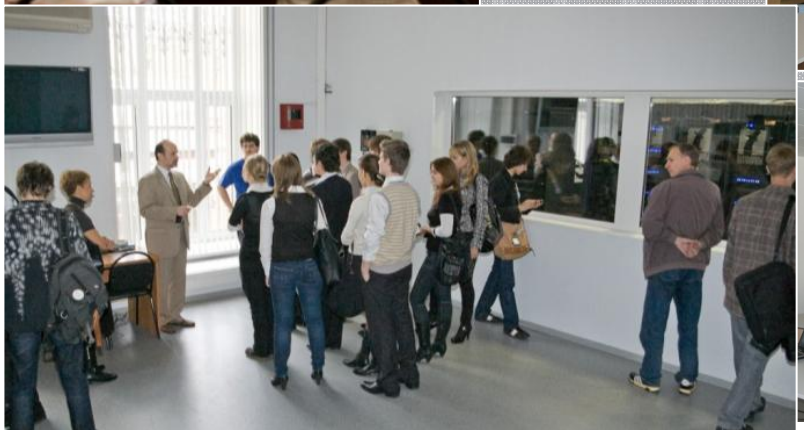
Servers…

PCs, Laptops…

Tablets, Smartphones…

Schools at MSU Supercomputing Center

(550+ visitors in 2013)



Всероссийский Фестиваль науки

Summer Supercomputing Academy

at Moscow State University
June,23 – July,4, 2014

- *Plenary lectures by prominent scientists, academicians, CEO/CTO's from Russia and abroad,*
- *6 parallel educational tracks,*

  + Educational track for school teachers (informatics)
- *Trainings on a variety of topics,*
- *Attendees: from students up to professors.*

SUPERCOMPUTING
CONSORTIUM OF RUSSIAN UNIVERSITIES

Supported by: Intel, IBM, NVIDIA, T-Platforms, MSC

Parallel Computing and Primary School? Easily!

Can you do it faster ?

How to work in a team ?

Courtesy of M.A.Plaksin, Perm, Russia

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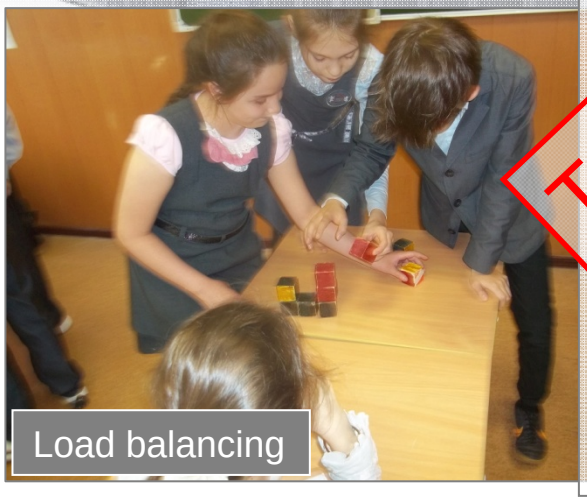
Can you do it faster ?



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…

Terms, languages, etc… are strictly prohibited !

How to work in a team ?

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Who will live/work beyond Exascale ?
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