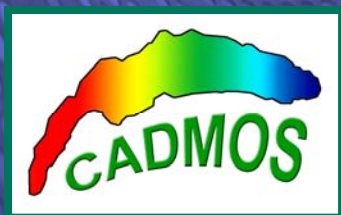


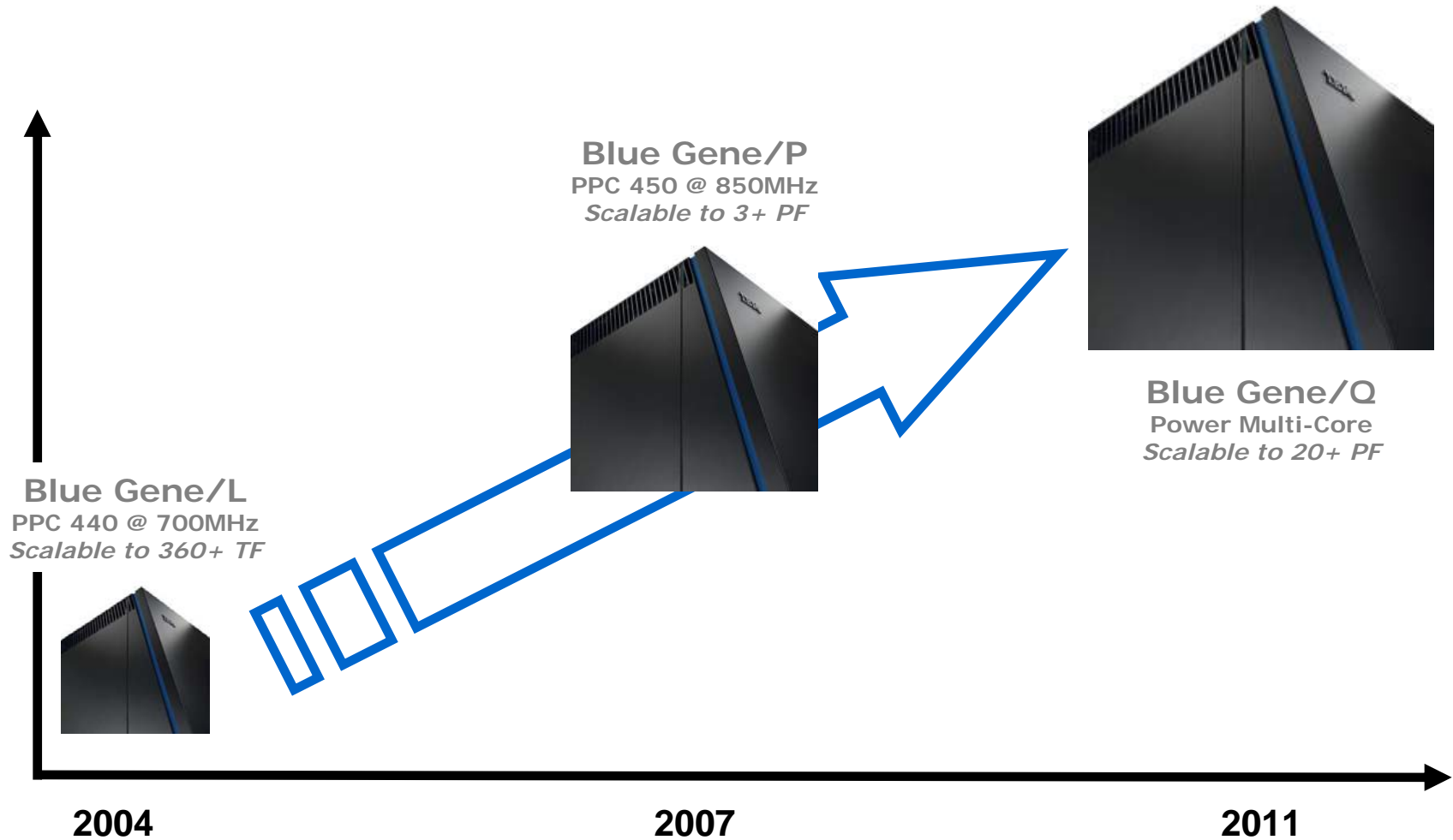
# Introducing the CADMOS Blue Gene/P supercomputer

David Cremese  
March 4th, 2010





# IBM Blue Gene supercomputer roadmap



# Blue Gene/P technology overview

## System-on-Chip (SoC)

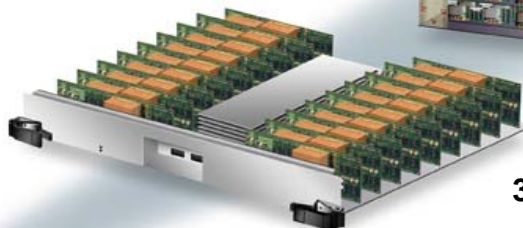
Quad PPC450-850 w/ Double FPU  
Memory Controller w/ ECC  
L2/L3 Cache  
DMA & PMU  
3D Torus Network  
Collective Network  
Global Barrier Network  
10GbE Control Network  
JTAG Monitor



**SoC**  
13.6 GF/s  
8 MB EDRAM



**Compute Card**  
1 SoC, 18 DRAMs  
13.6 GF/s  
4 GB DDR



**Rack**  
32 Node Cards  
13.9 TF/s  
4 TB



**Cabled**  
8x8x16



**System**  
Up to 256 Racks  
Up to 3.5 PF/s  
Up to 1024 TB

Blue Gene/P continues to provide leadership performance in a **power-efficient, space-saving** package for the most **demanding, scalable** computational science applications

# Center for Advanced Modeling Science



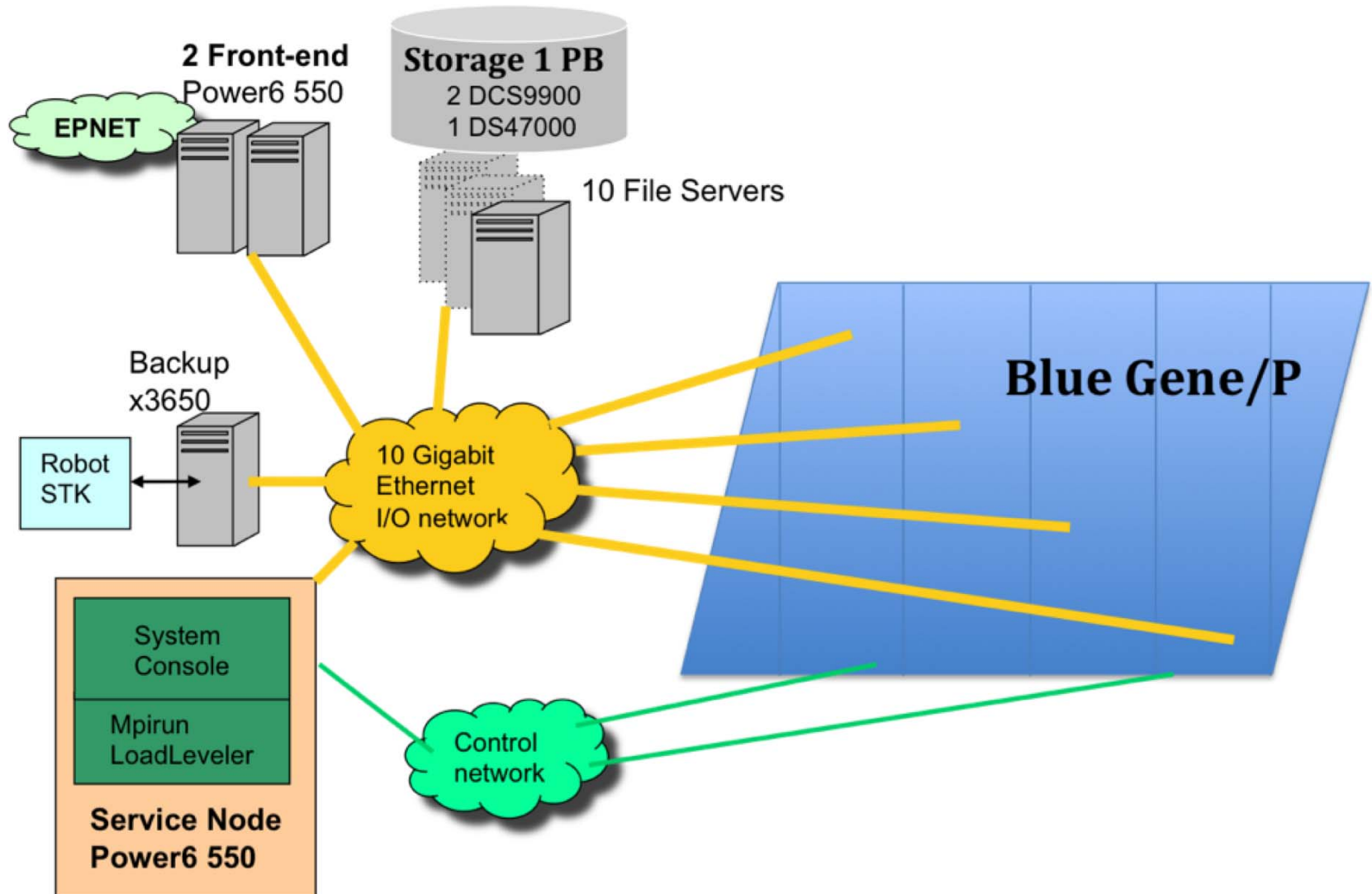
- Regional node in the Swiss national plan for High Performance Computing & Networking (HPCN)
- Supporting « grand challenge » computational science projects from EPFL, UniGE and UNIL
- Funded by the 3 partner institutions, the Geneva and Vaud cantons, and 2 private foundations
- Hosted and administered by EPFL DIT

## L'union Vaud-Genève passe par un superordinateur installé à l'EPFL

INNOVATION | L'Ecole polytechnique fédérale (EPFL) et les universités des deux cantons ouvrent un Centre lémanique de calcul à haute performance.



# CADMOS Blue Gene/P system architecture



# CADMOS Blue Gene/P system characteristics

<p><b>Blue Gene/P Core System:</b></p> <ul style="list-style-type: none"> <li>- Number of BG/P Core Racks</li> <li>- Water-cooled rack layout</li> <li>- Number of Computes Nodes</li> <li>- Number of PPC450 cores</li> <li>- Torus dimensions</li> <li>- Total system memory</li> <li>- Peak performance</li> <li>- Number of 10 Gb/s IO Nodes</li> </ul>	<p style="text-align: center;">4 1x4 4,096 16,384 16x16x16 16 TB 56 TF/s 56</p>
<p><b>General Parallel File System:</b></p> <ul style="list-style-type: none"> <li>- Streaming IO bandwidth</li> <li>- Raw storage capacity</li> </ul>	<p style="text-align: center;">10 GB/s 1,200 TB</p>



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