

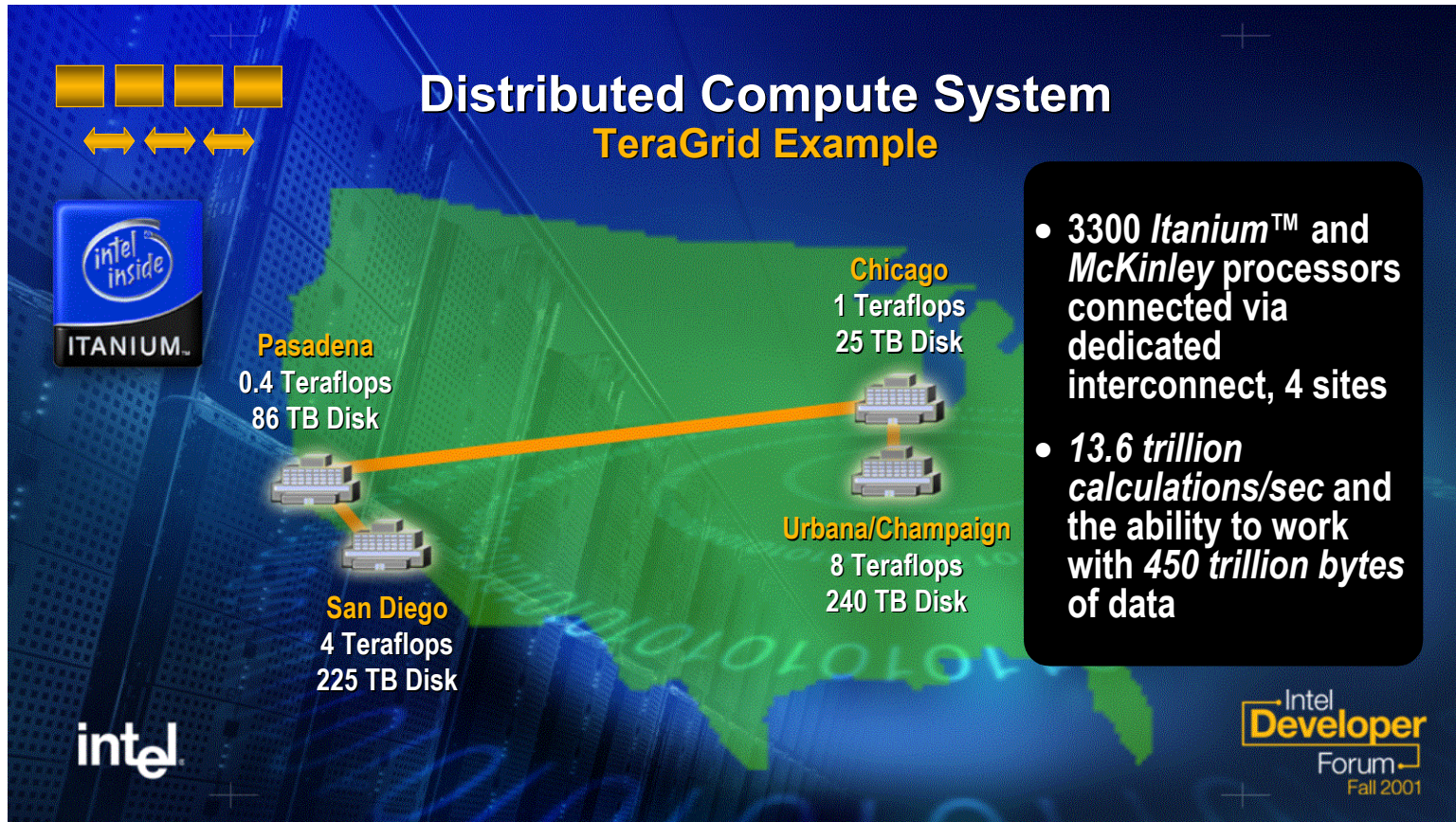
# High-Performance Computing on Intel® Architecture

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# Quelques exemples



## Exemples en Xeon (32 bit)

- **CGG**
- **NCSA, National Center for Super Computing Application : # 352 ITP**
- **Cornell Theory Center, ...**
- **PSA : plusieurs clusters # 80 nœuds bi-proc (+).**
- **ORSAY/LIMSI ; Besançon ....**
- **Audi : # 128 C**
- **VW : 256 processeurs**
- **...**

## Exemples en Xeon (32 bit)

- **Los Alamos National Laboratory : 1 024 nœuds**
- **UB University at Buffalo : 2 300 nœuds**
- **Lawrence Livermore National Laboratories (# 5 top500 : 2304 processeurs.)**
- **NOAA National Oceanic & Atmospheric Association # 8 top500 (1 536 processeurs) + autres clusters de 868 processeurs**
- **Los Lobos :**
- **...**

## Exemples en ITANIUM (64 bit)

- **Shell, Cornell Theory Center, Los Lobos, ...**
- **CERN : # réseau de 10 000 processeurs pour le LHC Computing Grid : « a thousand time more computing power by 2006 »**
  - CPU power required : over 4 million SPECint95 (# 100 000 of today's PCs)
  - LAN throughput : around a Terabit/s at hundreds of sites
  - WAN capacity : many Gigabit/s to hundreds of sites
- **Us Energy : 700 nœuds\*HP/ITP2 # 9,2 TFlop/s**

## Exemples en ITANIUM (64 bit)

- **NCSA, National Center for Super Computing Application : # 352 ITP**
- **BP Houston : RX5670\* 545 processeurs (# 42 top500)**
- **PNNL (research lab chemistry : 1400 processeurs)**
- **INRIA-IMAG Grenoble : # 100 noeuds**
- **CNGénotypage, Airbus ...**

# Synthèse

- Dans la liste des top 500 (<http://www.top500.org/list/2002/11/>) et en 3 ans Intel est passé de 2 systèmes à 56 systèmes (55 clusters et 1 MPP)
- Dont 2 dans les 10 premiers (#5 et #8)



# Summary

- **The Economics High-Performance Computing have changed.**
- **High-Performance Computing solutions must track Moore's law to be viable.**
- **Intel is playing a key role in accelerating HPC solutions for science, engineering and business with open commercial off the shelf technology leadership.**

**Can accessible, affordable technology  
drive off-the-chart performance?**



**Thank you.**

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Bringing Computing to Everyone,  
Anytime, Anyplace in the world ...  
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# Technology Leadership

