

Supercomputing: a new era?



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With the big data applications supercomputing era...



Requiring a huge amount of money, resources and skills

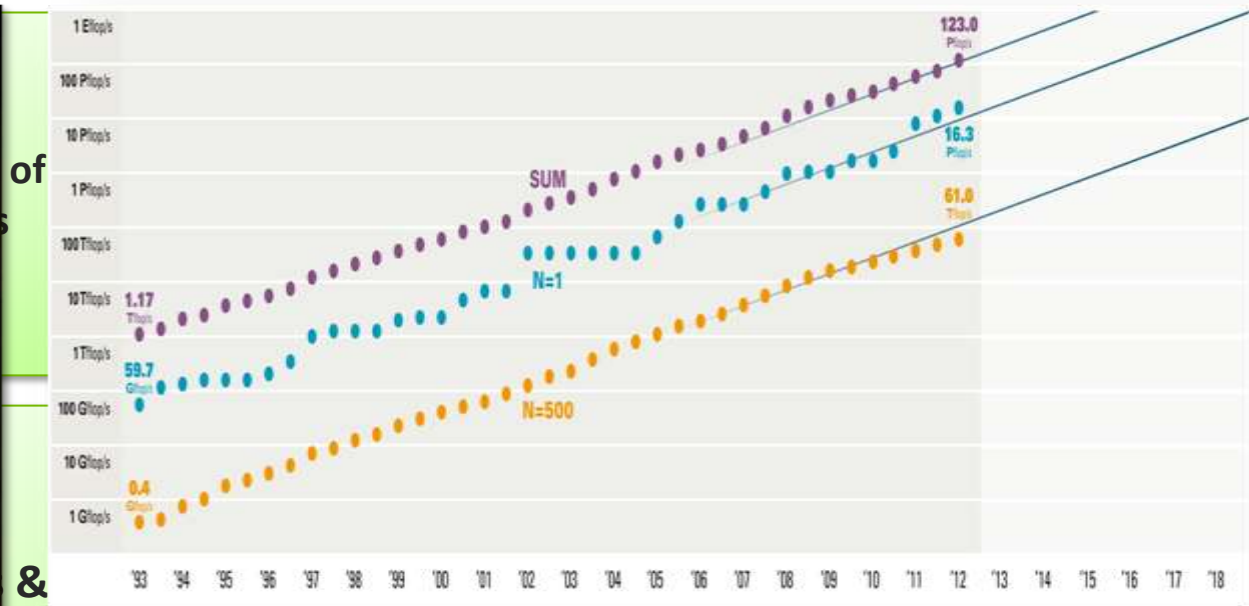
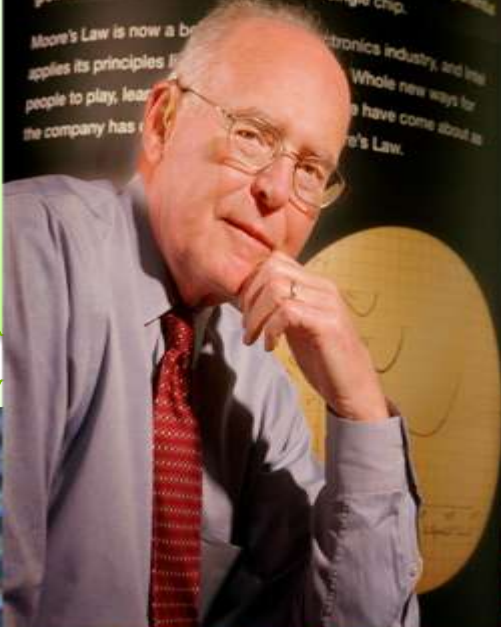


Against a backdrop of continuous performance development

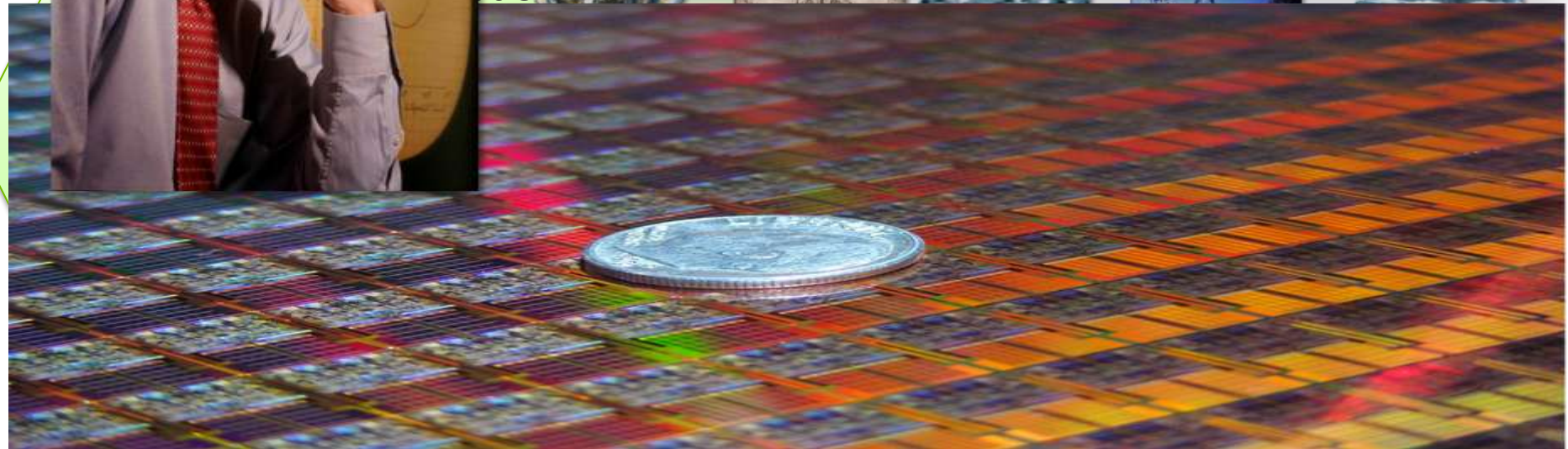
Moore's Law

In 1965, Intel co-founder Gordon Moore predicted that the number of transistors on a piece of silicon would double every couple of years—an insight later dubbed "Moore's Law." His prediction has held true, as ever-shrinking transistor sizes have allowed exponential growth in the number of transistors on a single chip.

Moore's Law is now a benchmark for the electronics industry, and Intel applies its principles to other areas of the company. Whole new ways for people to play, learn, and work have come about as a result of Moore's Law.



&
ratio



« Moving from being the smartest buyers
of HPC to the smartest users of HPC »



The Cloud is [changing] everything

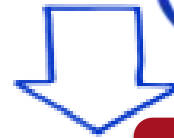


as a Service

On-demand

Elastic

Configurable



Dynamic provisioning

Automation

Orchestration

Customer Business
Platform

Can we industrialise HPC in the same way as IT?



One type of aircraft (A320)

Accelerated rotations

**Short and medium haul,
direct routes**

Single class

Sale of tickets on the Internet



**Standardized, commoditized
data centers**

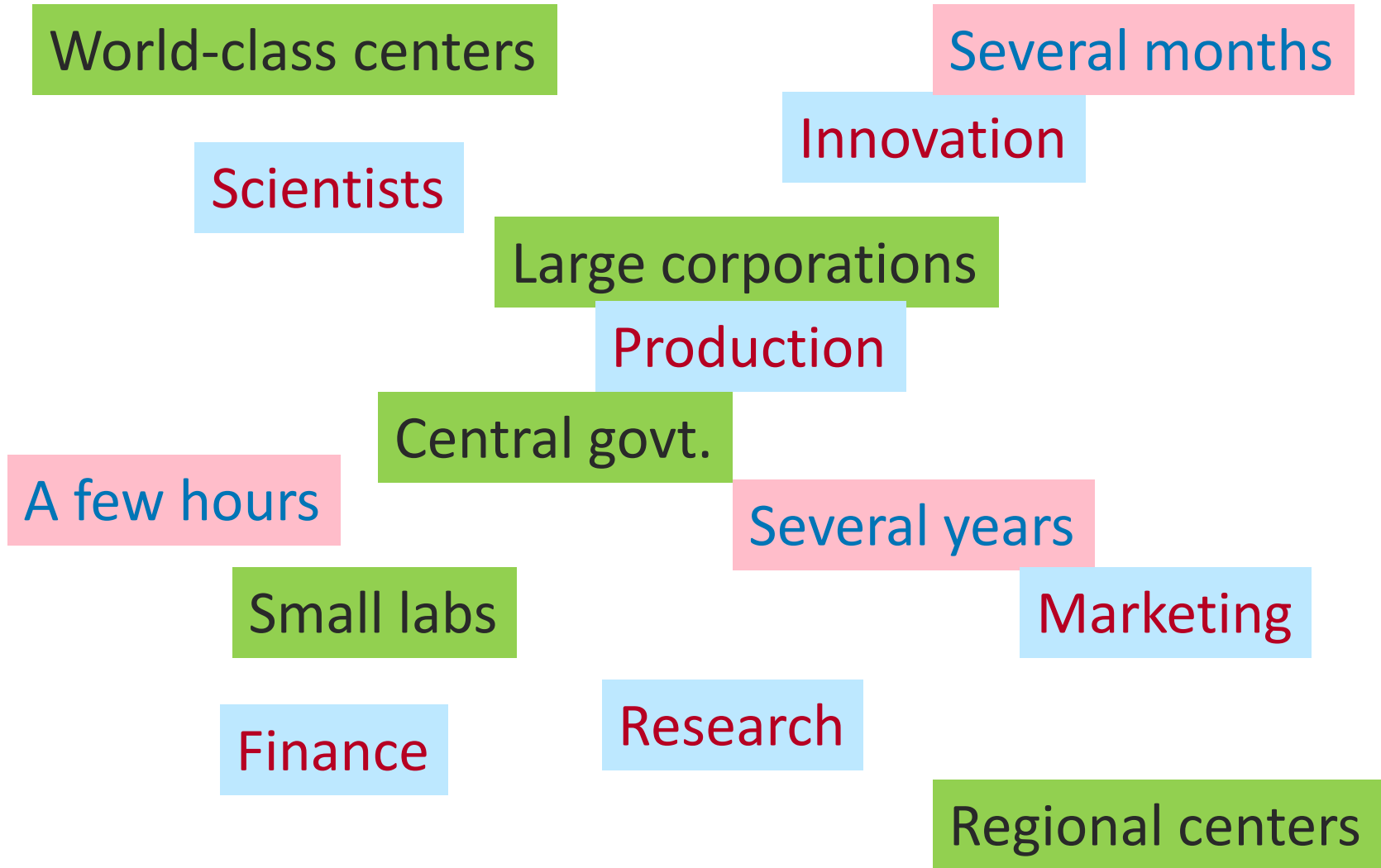
Server load maximized

**Catalogued applications and
services**

Defined service levels

Services portals, APIs

More users, more services, new delivery models



Delivering supercomputing as a service



The power of Cloud HPC

- Lower costs through shared, pooled resources
- New economic models
 - Opex based
- Lower entry barriers
 - No further investment in complex supercomputers
- Ability to share workloads within communities and industry sectors
- Sovereignty of data
- Workload elasticity
 - Large system simulation
 - Faster execution

The Cloud model provides an opportunity to industrialise and regulate usage of HPC within all industrial sectors, especially 'the missing middle'

Inventing new applications and services

Manufacturing and Services

Accelerate innovation in all industry and services sectors including SMEs; *the great white horse*

Culture and Multimedia

Develop and deliver digital content (HD/3D); *exponential data*

Cloud HPC is facilitating the emergence of new services and ecosystems

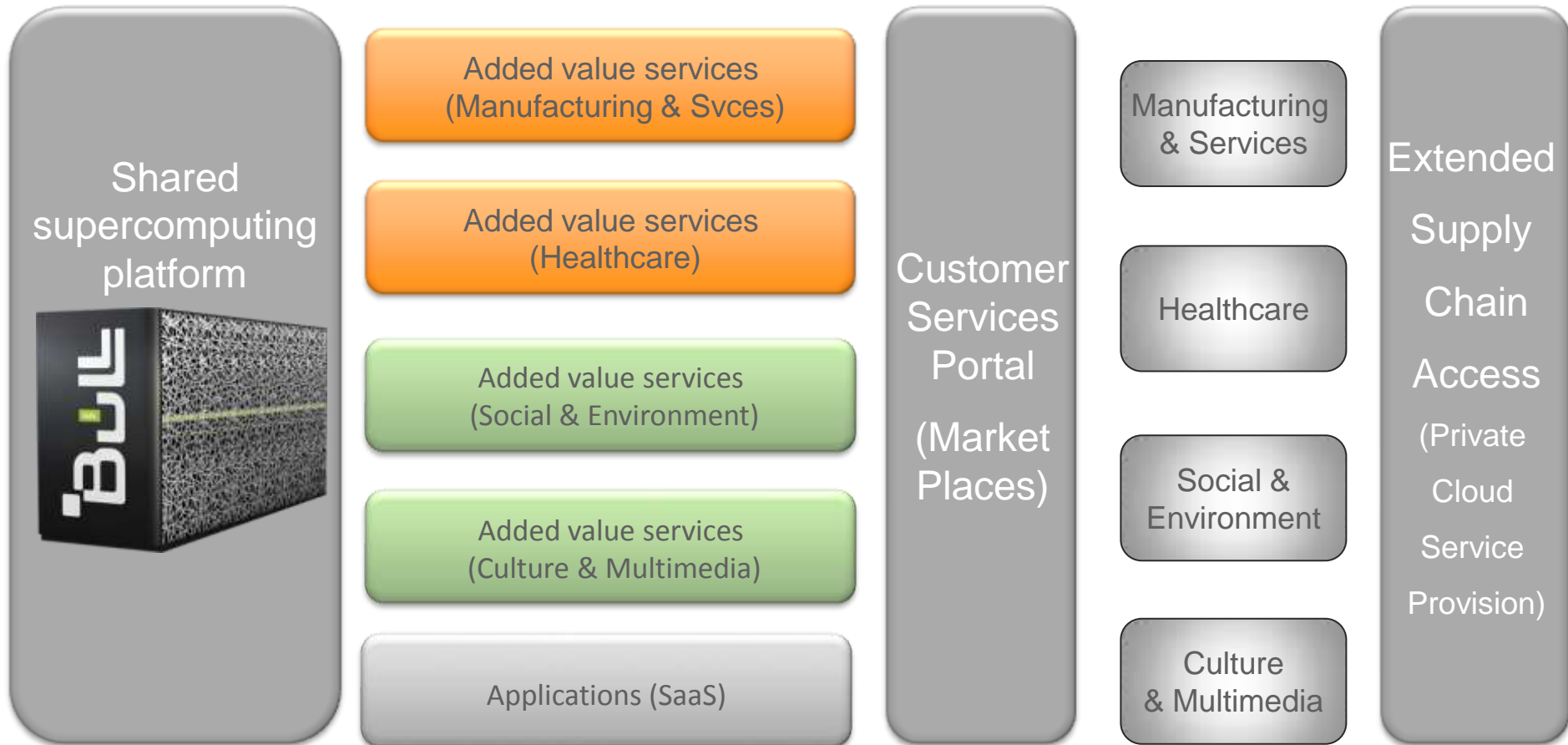
Social, Environment, Homeland Security

Anticipate pandemic, ecological and food crisis, improve public safety: *critical national infrastructure*

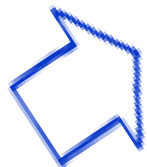
Healthcare

Develop and provide new applications and services to support advanced health telemetrics; *wellbeing*

Commission Output through Cloud Models



Access & Collaboration will ultimately deliver next generation HPC





Architect of an Open World™

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