

Grid – Distributed Computing at Scale

Mark Linesch - President, Open Grid Forum
Hewlett Packard

New world of distributed computing

Old World

Static

Silo

Physical

Manual

Application



New World

Dynamic

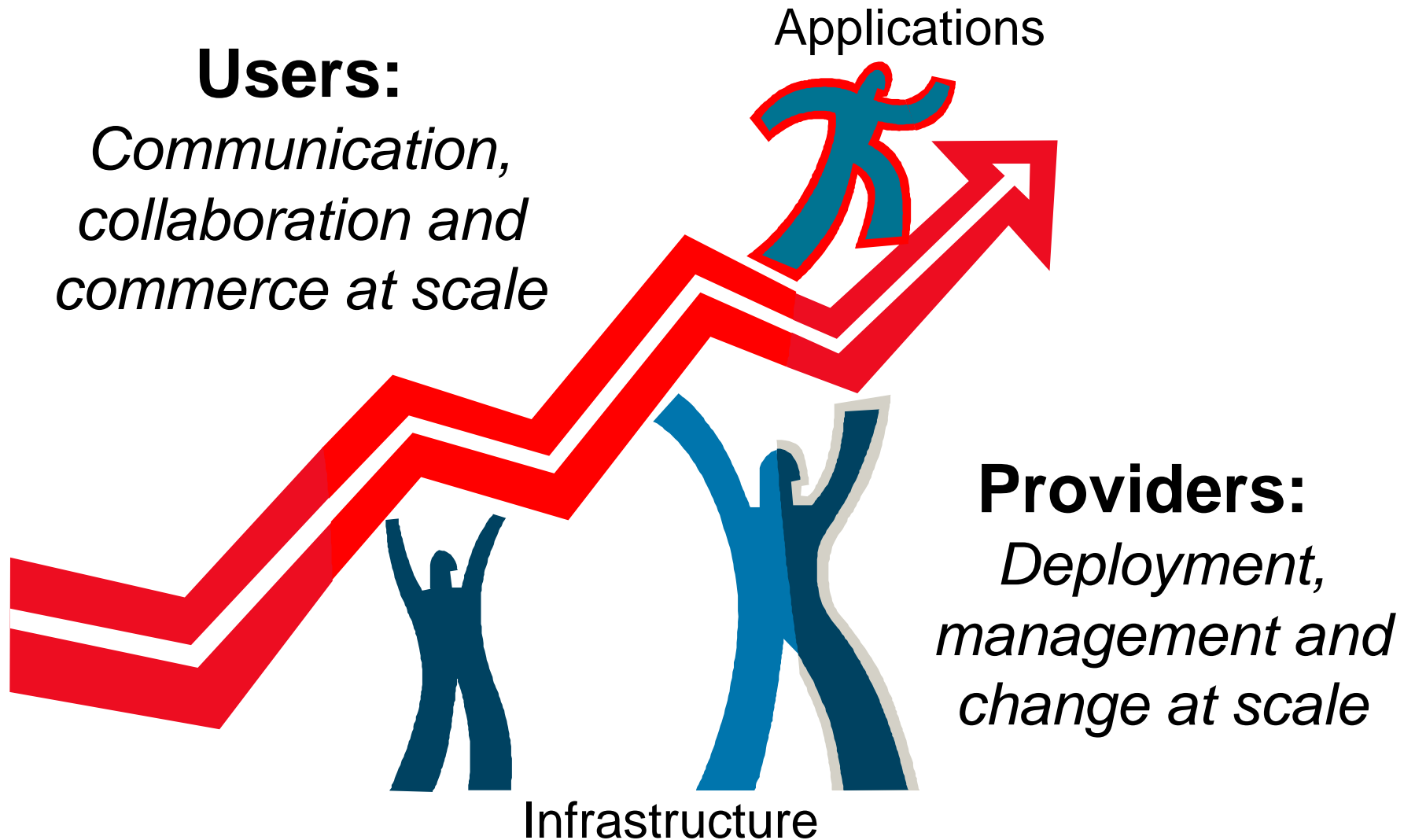
Shared

Virtual

Automated

Service

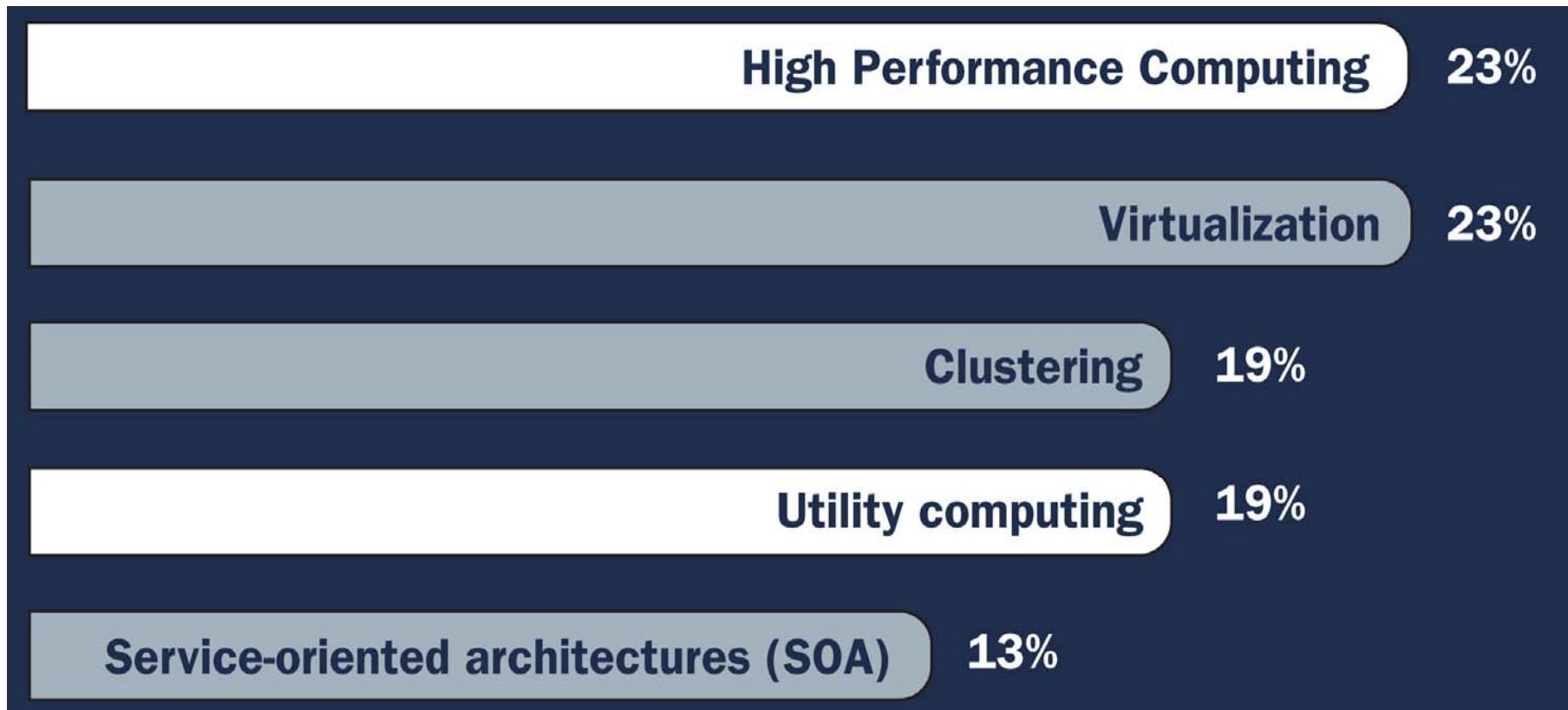
A new world of opportunity and challenges



Industry is still “storming, forming, and norming” on the terms



70% of respondents said there is a better term than ‘grid’ to describe their distributed computing architecture



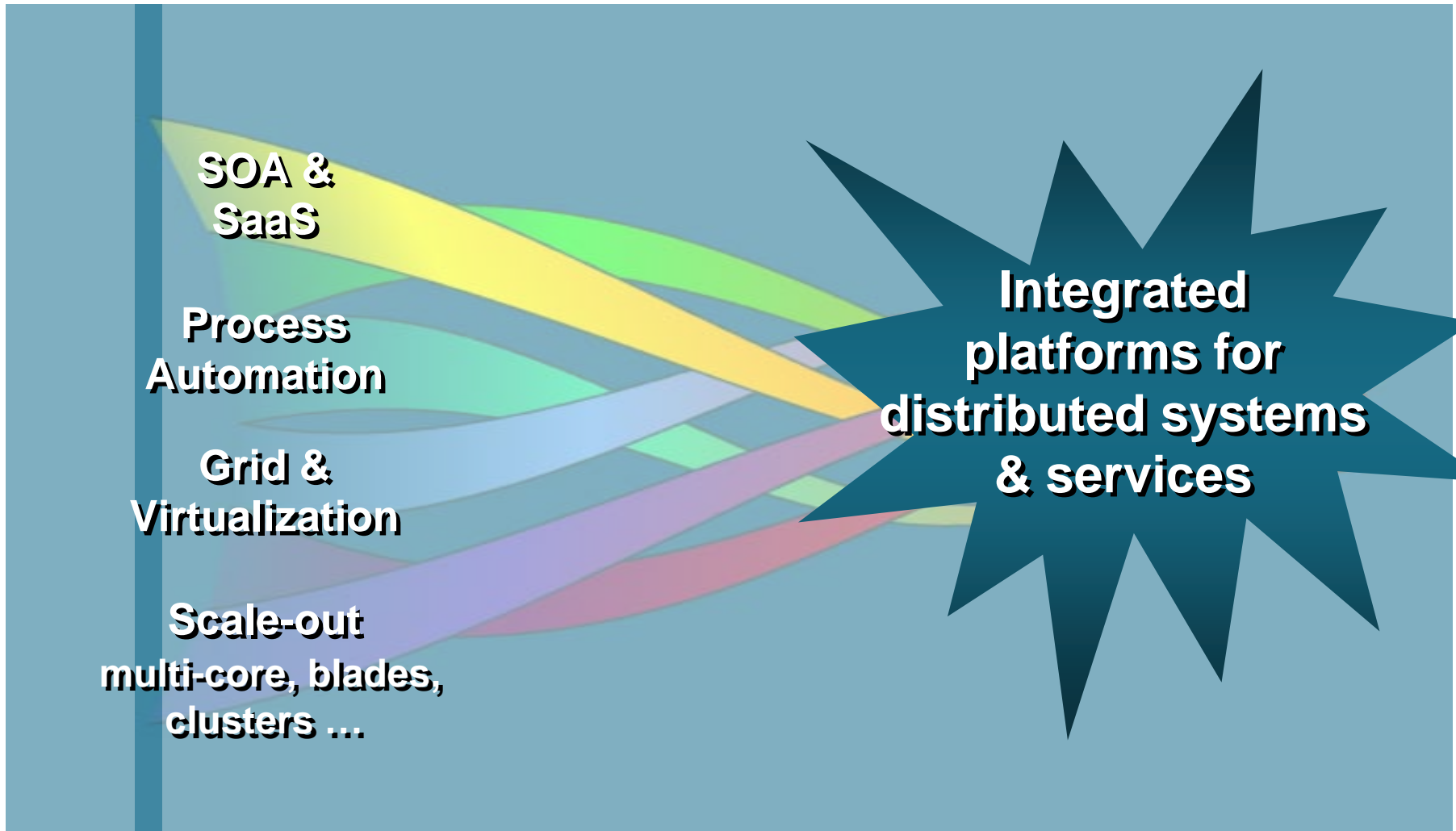
Source: 451 Group, January 2007

Grid Computing - The State of the Market

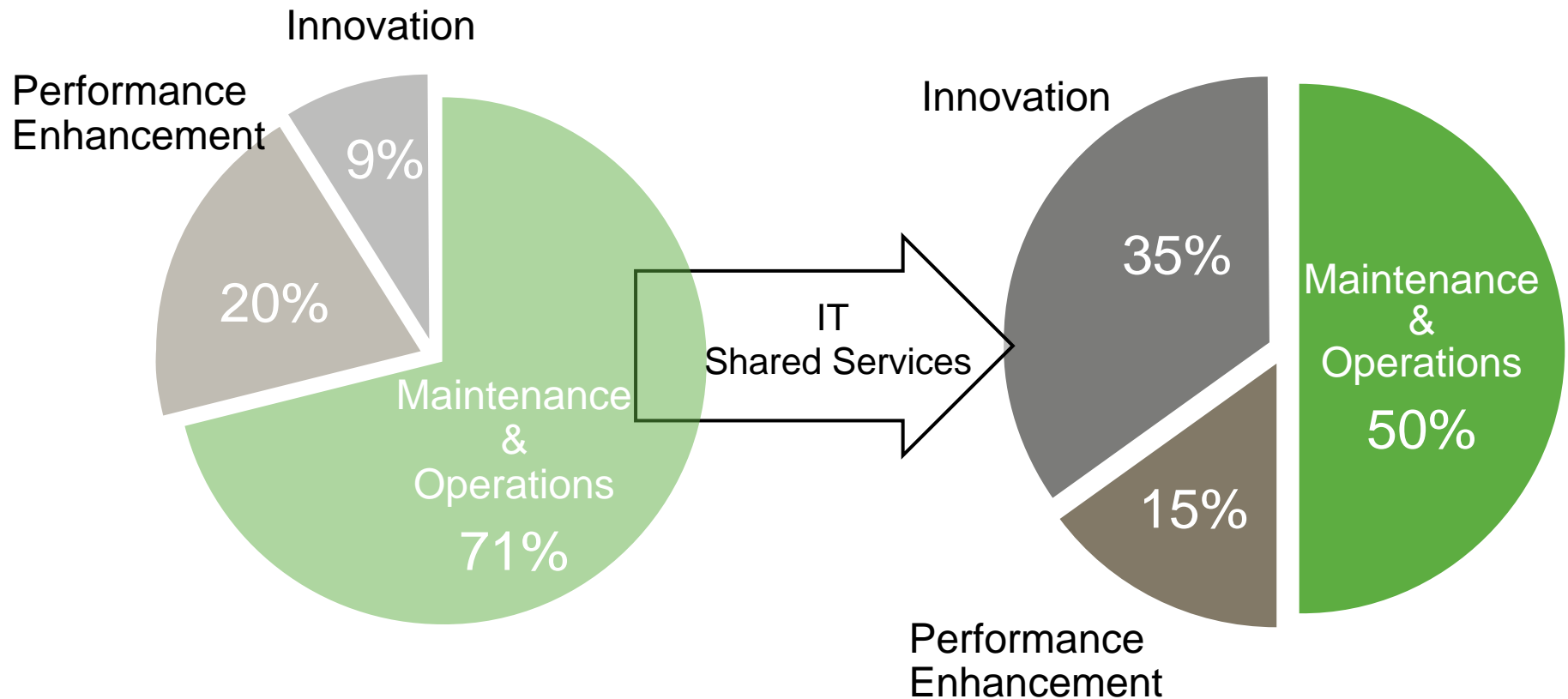
www.ogf.org

© 2006 Open Grid Forum

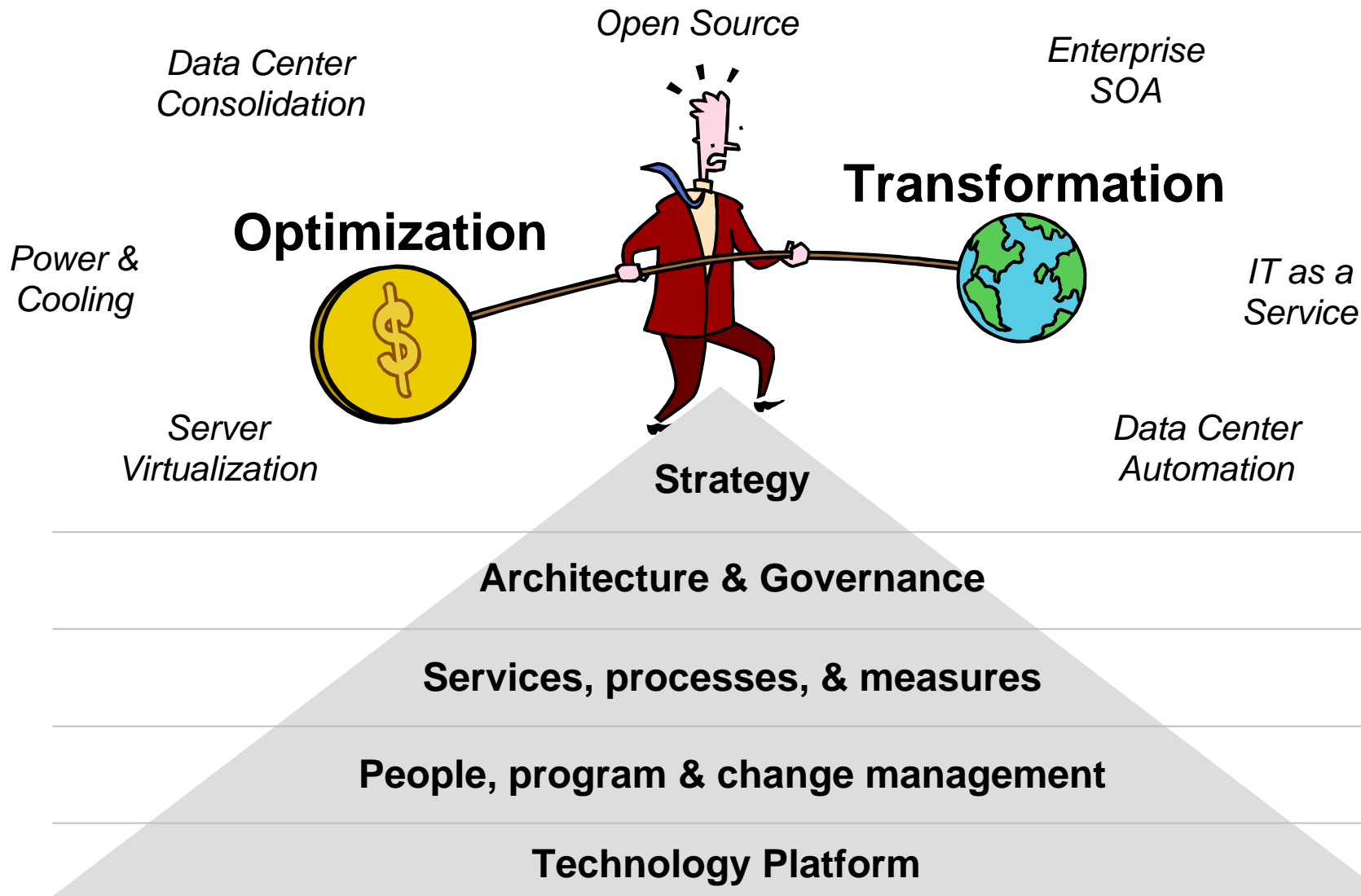
... as the technology threads are brought together



Funding the transition requires a focus on the economics ...

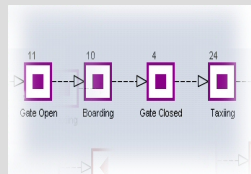


... while balancing short and longer term aspects of the journey



... and maturing the technology platform over time

Technology platform



Process Automation

Services Architecture

Application
Virtualization

Data
Virtualization

Infrastructure
Virtualization

Common Resource Model



Service Catalogs



Service Management

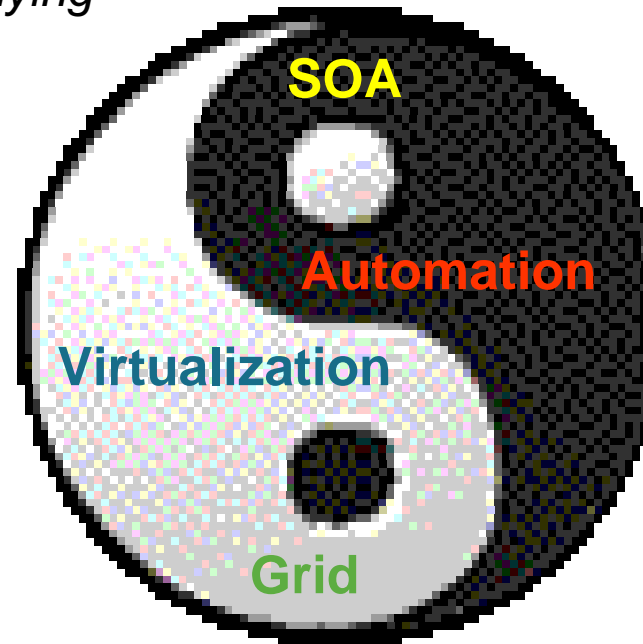
Security



Metering, reporting

Grid and related concepts are essential to maturing the technology platform

*Applications/Services
abstracted from the underlying
IT infrastructure.*



*Business & IT processes
automated and adjusted
based on policy*

*Resources shared and
aggregated to support
dynamic workloads.*

*Data in any format, at any location,
accessed and integrated while
masking complexity*

Grids can be view from several perspectives

Narrow

Grids as application-specific deployments



Broad

Grids as application-agnostic infrastructure



On the one hand ...Grid adoption begins application specific ...




- Level 5** Multiple applications on linked grids, with more extensive resource sharing, looking at broad enterprise applications
- Level 4** Multiple applications on basic linked grids, with limited resource sharing and centralized control
- Level 3** Multiple applications on silo'd grids, operated by lines-of-business
- Level 2** Single application run in single line-of-business
- Level 1** Trials/Proof of concept

Source: 451 Group, January 2007

Grid Computing - The State of the Market

On the other hand, Grids can be viewed more broadly

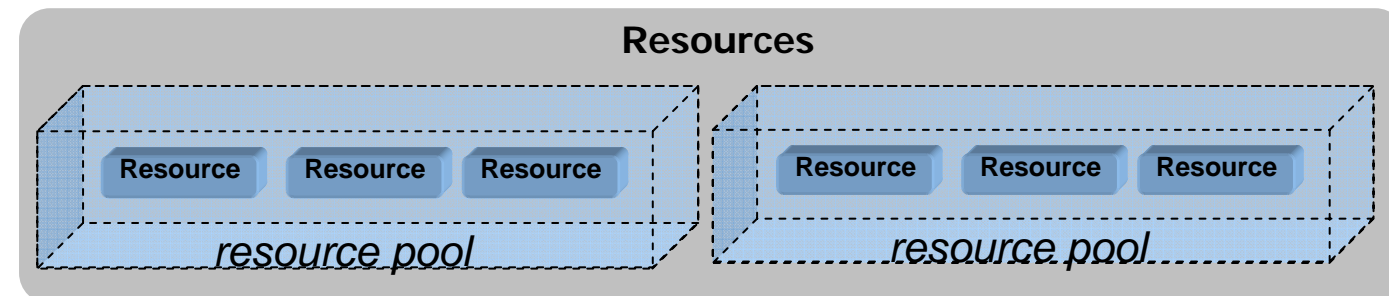
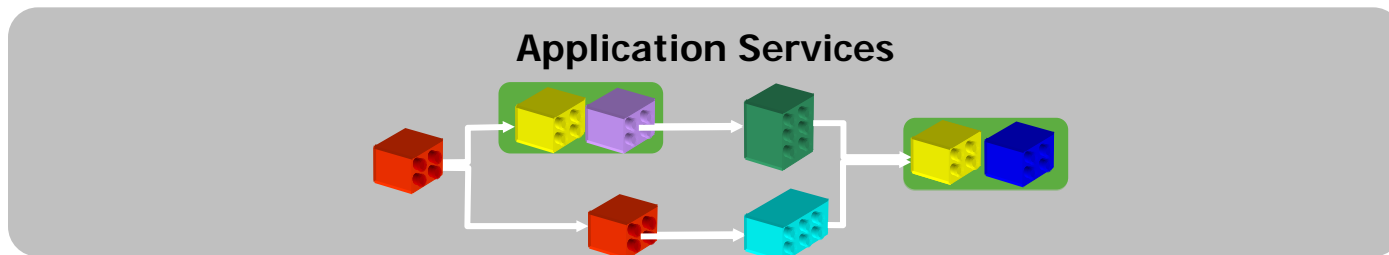


“In a broader sense, grids are the integrated platforms for all network-distributed applications or services, whether they are computationally or transactionally intensive.”

Paul Strong, eBay

The “broad” interpretation of Grid is realized through ...

... a horizontal layer of integration software that aggregates a network of resources into a system on which to run applications services



Whether broad or narrow, Grids are about scaling IT

Build *at scale*



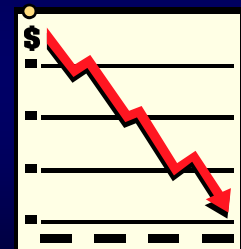
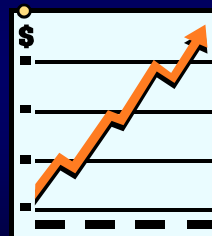
Operate *at scale*



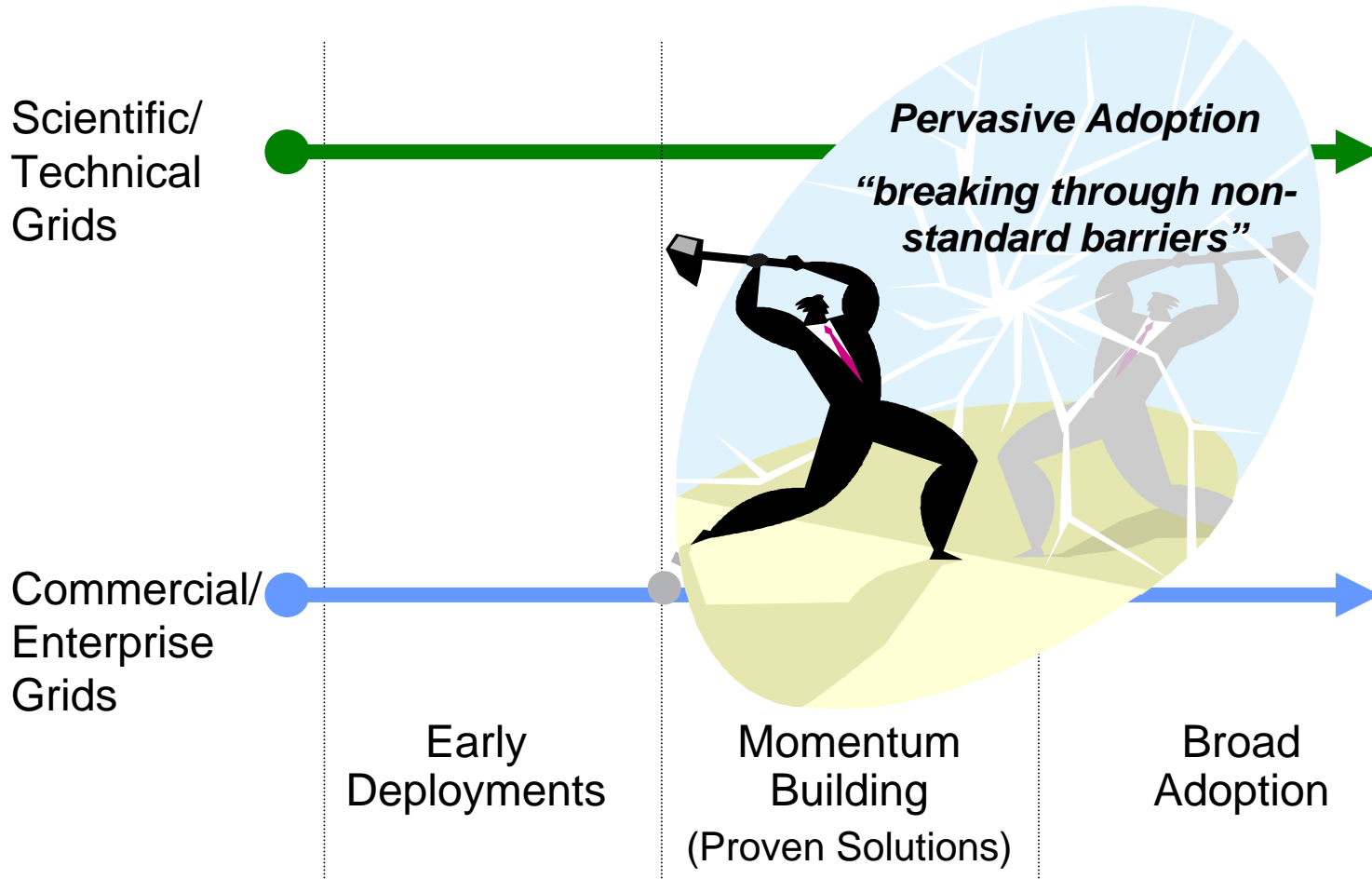
Manage *at scale*



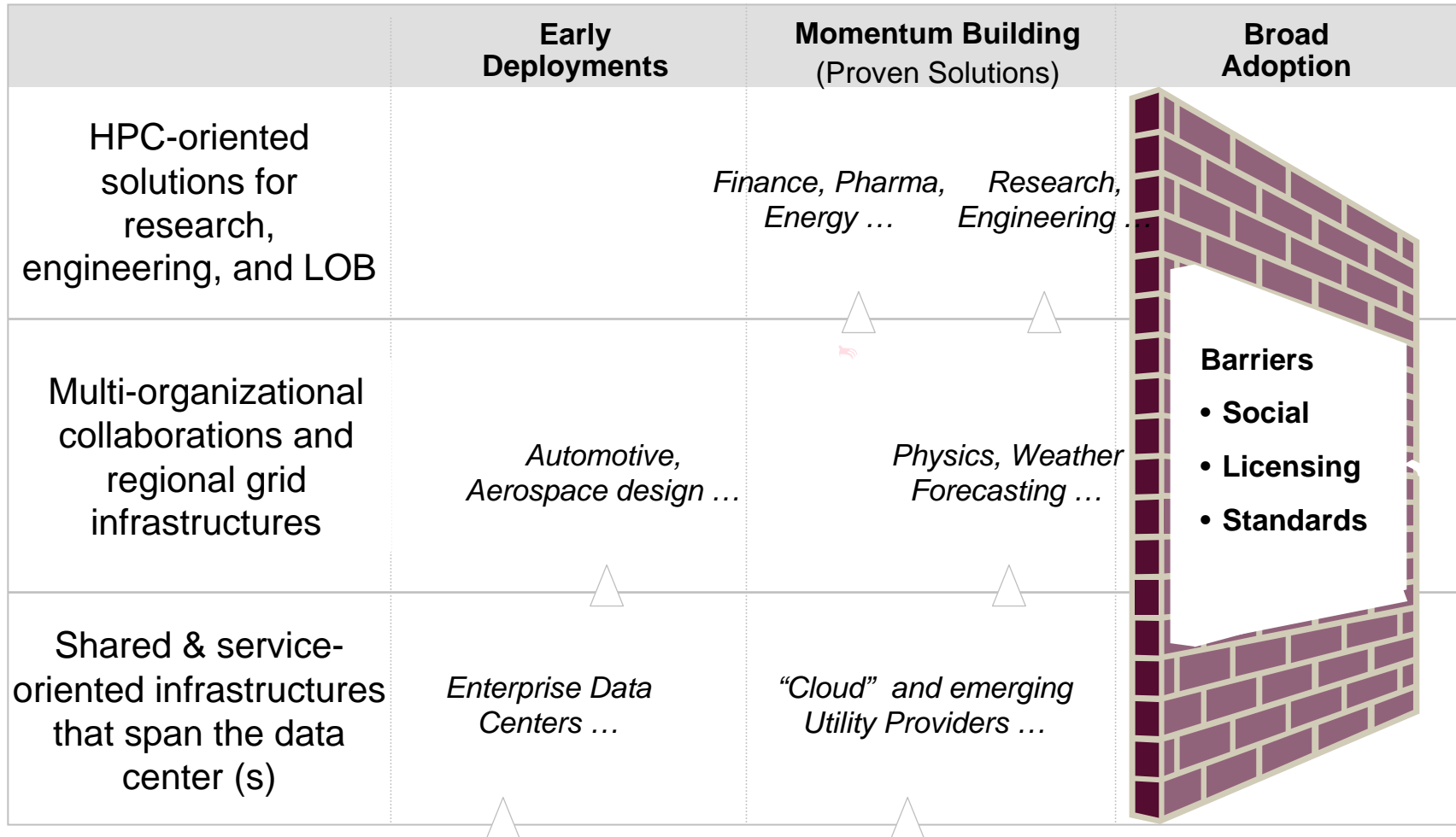
Change *at scale*



Adoption is progressing in stages



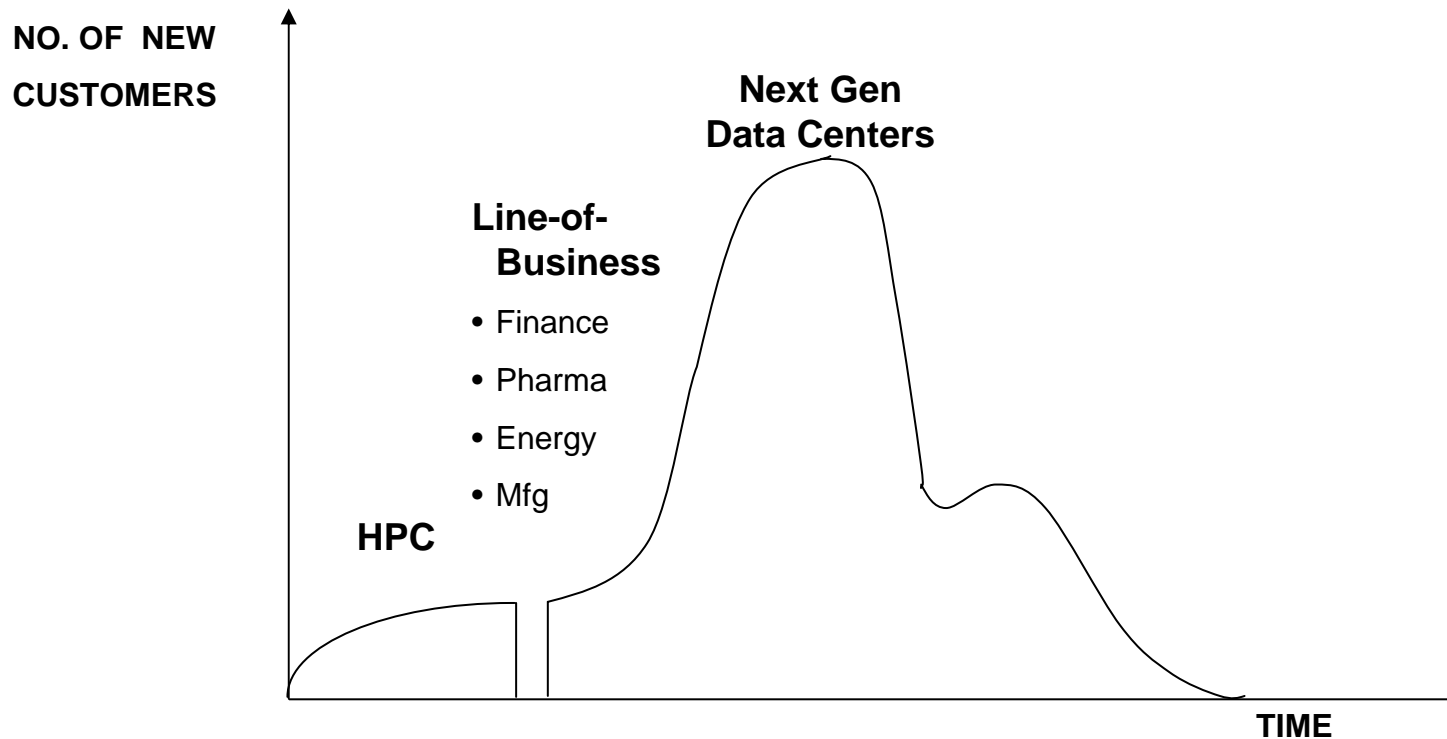
Popular Grid usage patterns are emerging ...



...as Grids “cross the chasm” toward broader adoption

Application-driven

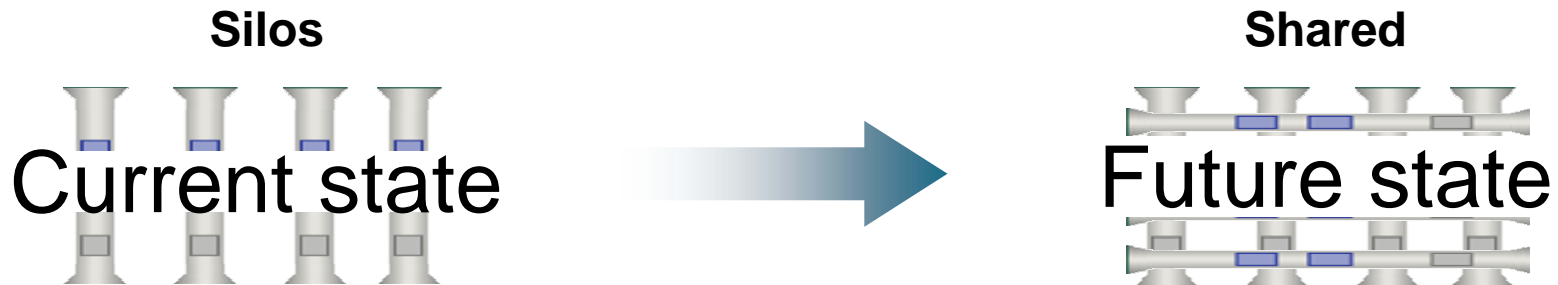
Infrastructure-driven



eScience (1x)

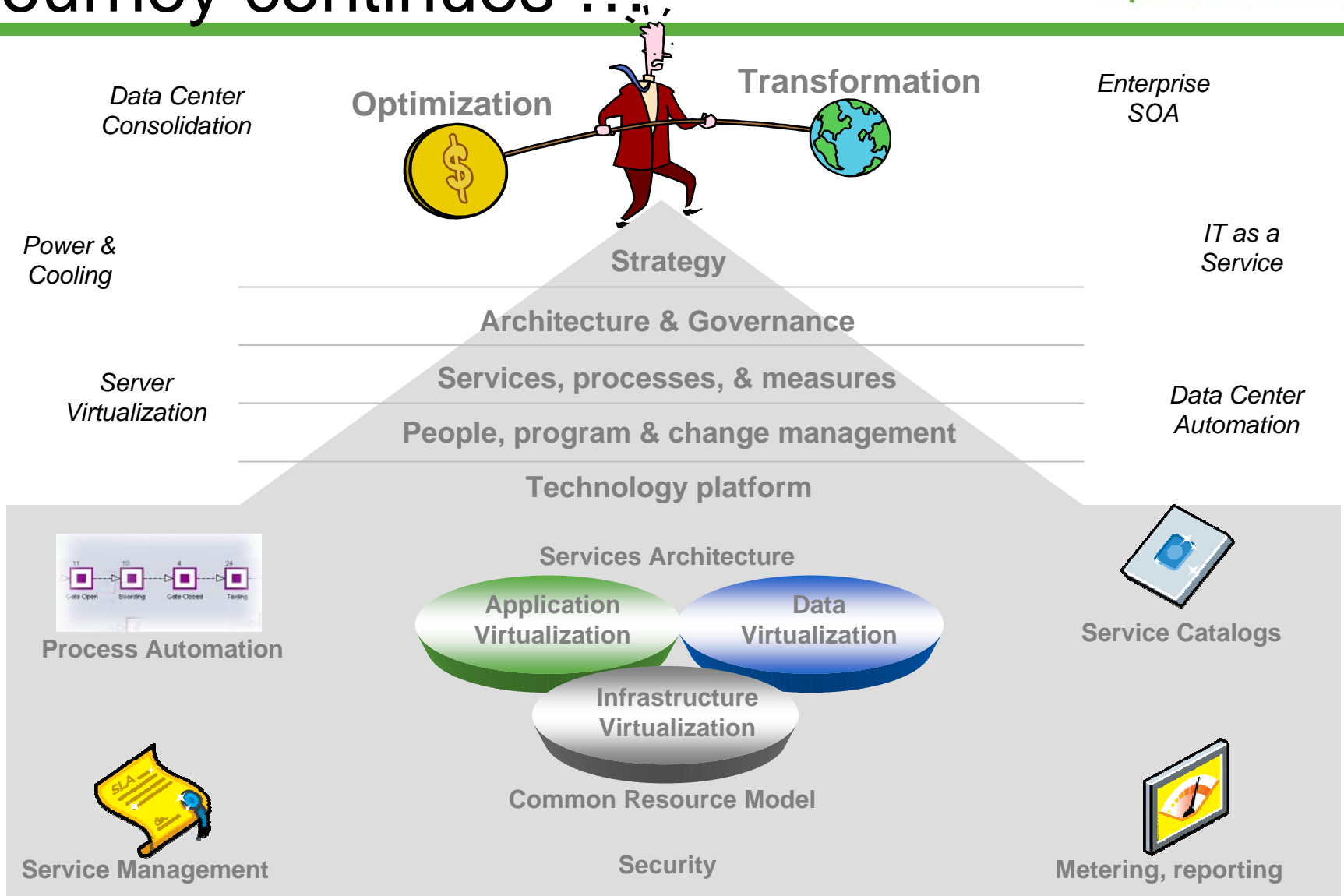
eBusiness (10x)

Grids and Next Generation Data Centers



- **Break the static links** between applications, data and the underlying infrastructure
- **Manage resources and relationships** based on workload, automated processes, and policies
- **Move toward enterprise-wide shared services** that support multiple lines-of-business & partners

Grids – essential technology as the journey continues ...



For more information



Grid – Distributed Computing at Scale

**An overview of Grid and
the Open Grid Forum**



Utilizing Grid in the Next Generation Data Center

www.ogf.org

Thank You!



Open Forum for grid
innovation and outreach

Open Standards for grid
software interoperability

OGF welcomes your questions and further engagement:

Mark Linesch
OGF President
mark.linesch@hp.com