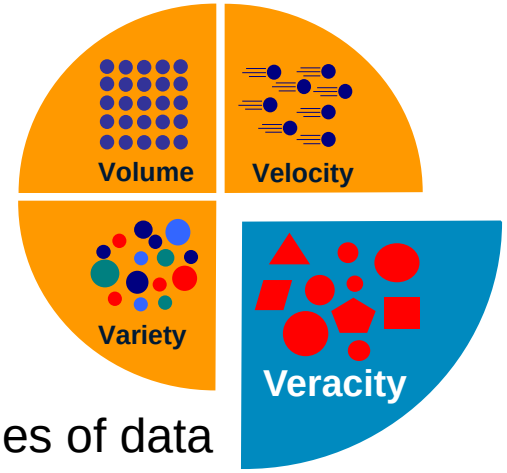
The IBM Enterprise Linux Server – A Solution to Your IT Challenges

Identifying Today's IT Challenges

Businesses have to keep abreast of today's challenges to remain competitive…

Ever increasing speed of business



Huge volumes of data

Access points from anyone, anywhere, anytime

Faster time to market

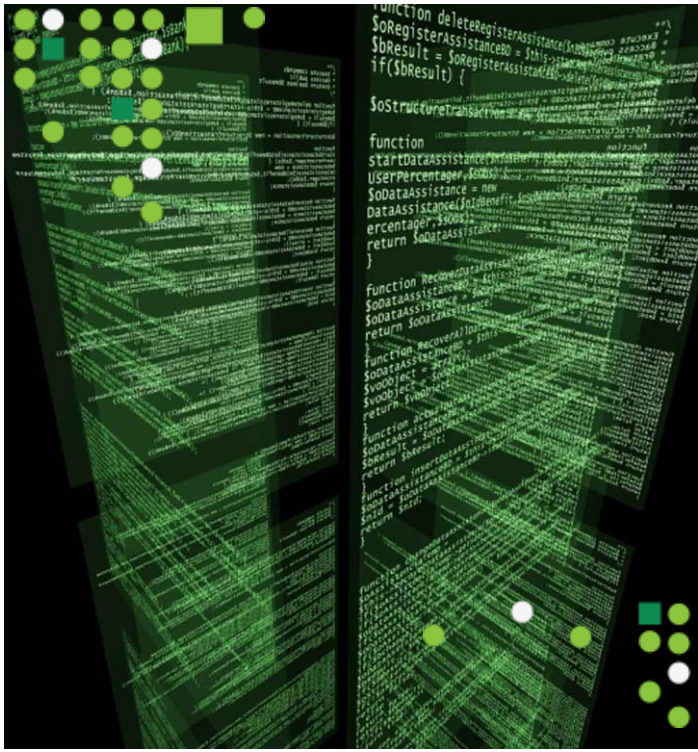
…with a relentless focus on reducing costs!

Today's business demands are amplifying the IT challenges

While technology has made great strides and all platforms are more capable than ever before…

… the demands set upon them have never been greater

- The volume of data is unprecedented
- The sheer performance required is staggering
- Security and availability are paramount
- Workloads are more diverse and more complex



The reality is that these demands are growing exponentially…

Amount of data is growing exponentially…

1.8 ZB
(or 1.8 trillion GB)
Amount of data in the "digital universe" today

Amount of data is expected to double every: **1.2 years**

… to about **35 ZB** by 2020

85% of all hardware purchases is for storage and management of data

At an estimated cost of **$44B** in 2013 alone

Source: IDC, IBM

Going forward, businesses are making major commitments to cloud, mobile and analytics

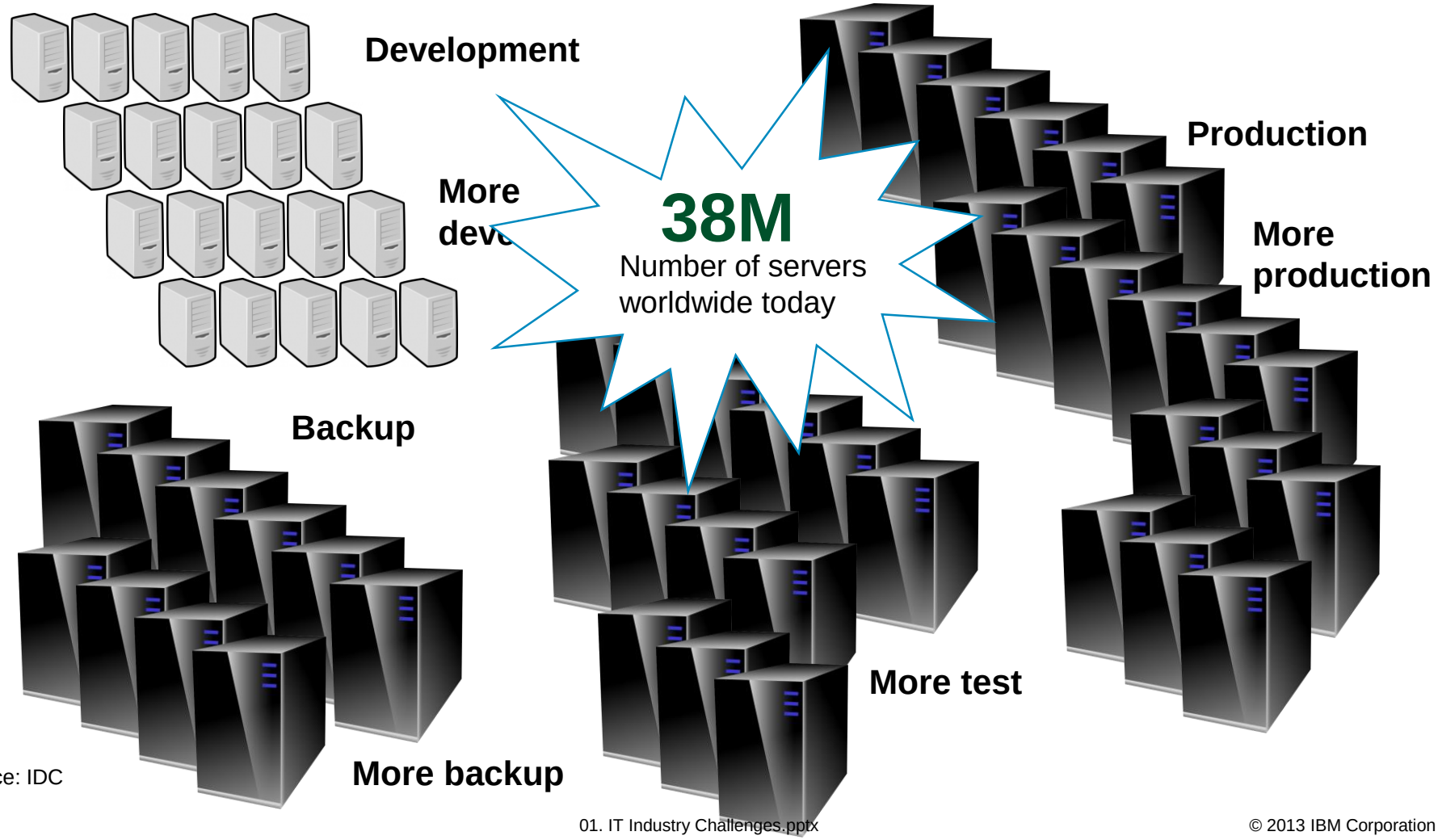
Cloud – no longer just for commodity workloads

Mobile – requires servers capable of handling huge numbers of transaction rates

Analytics – increased demand for powerful, secure, real-time

- New workloads that stretch the limits of many of today's enterprise platforms, requiring:
  - On-demand scalability and elasticity
  - Ability to handle huge numbers of transactions with exceptional availability and reliability
  - Ultimate levels of security for data
  - Reduced operating expenses and total cost of ownership

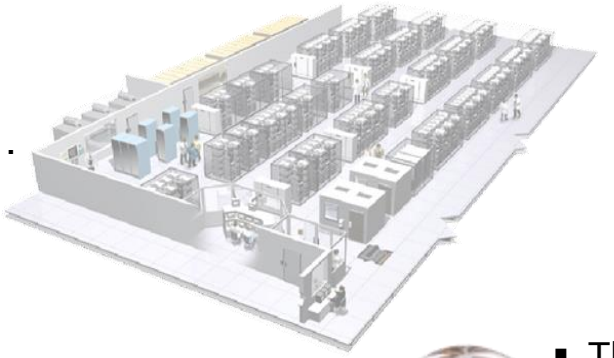
Typically, businesses address the IT challenge by adding more servers to their data centers



Source: IDC

Sprawling server farms leads to new challenges

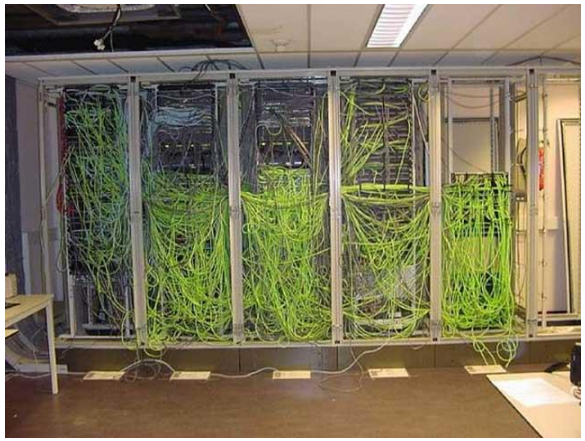
Data center space is at a premium…



Rapidly increasing demands on power and cooling…

- The Industry has seen a **10%** annual increase in power consumption over the past five years

High maintenance network cabling…



Example: Insurance company with 292 servers had 31 switches and over 600 cables…

3560E-24TD	8
3560E-24PD	17
3560E-12D	6
50 R UTP Cable	584
10GB Eth. Fiber Cable	60

Source: IDC, IBM

Sprawling server farms leads to new challenges

Steep software license costs…

Example: International bank…

…over 200 physical cores in distributed servers

Software license costs consumed **43%** of total IT budget* of $24M

Poor price/performance ratios…

85%

Of data center compute cycles are idle

15%

Of servers run 24/7 without being actively used on a daily basis

* Based on 5 year TCO study, costs included software, hardware, labor, networking, space, energy, and DR

More servers means more vulnerability

The average corporate IT infrastructure is cyber-attacked nearly 60,000 times every day.

$70,000

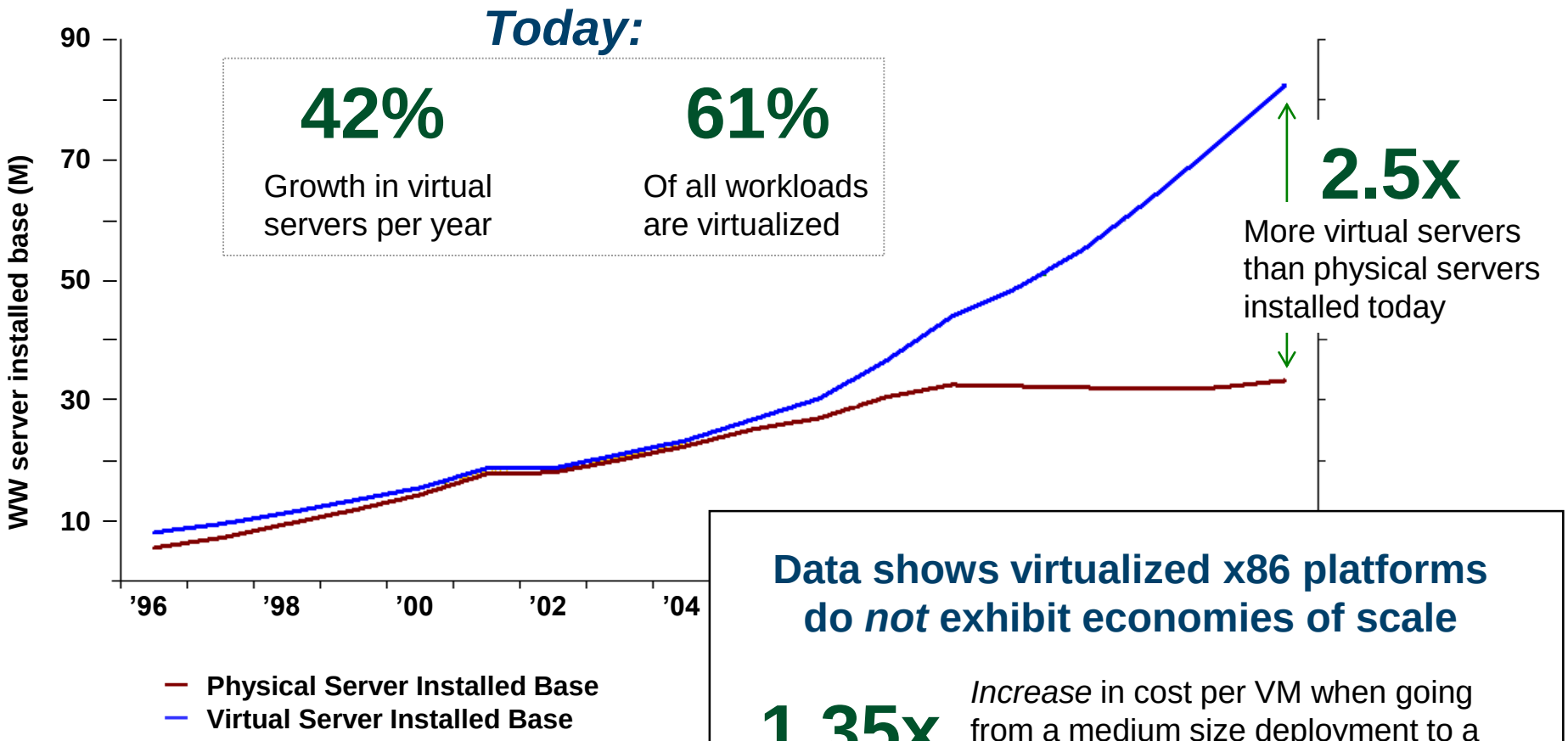
Average cost per security incursion on x86 platforms

3x

Incursion cost increase over the past 2 years

Source: IBM; Solitaire Interglobal Ltd.

Is server virtualization the answer?



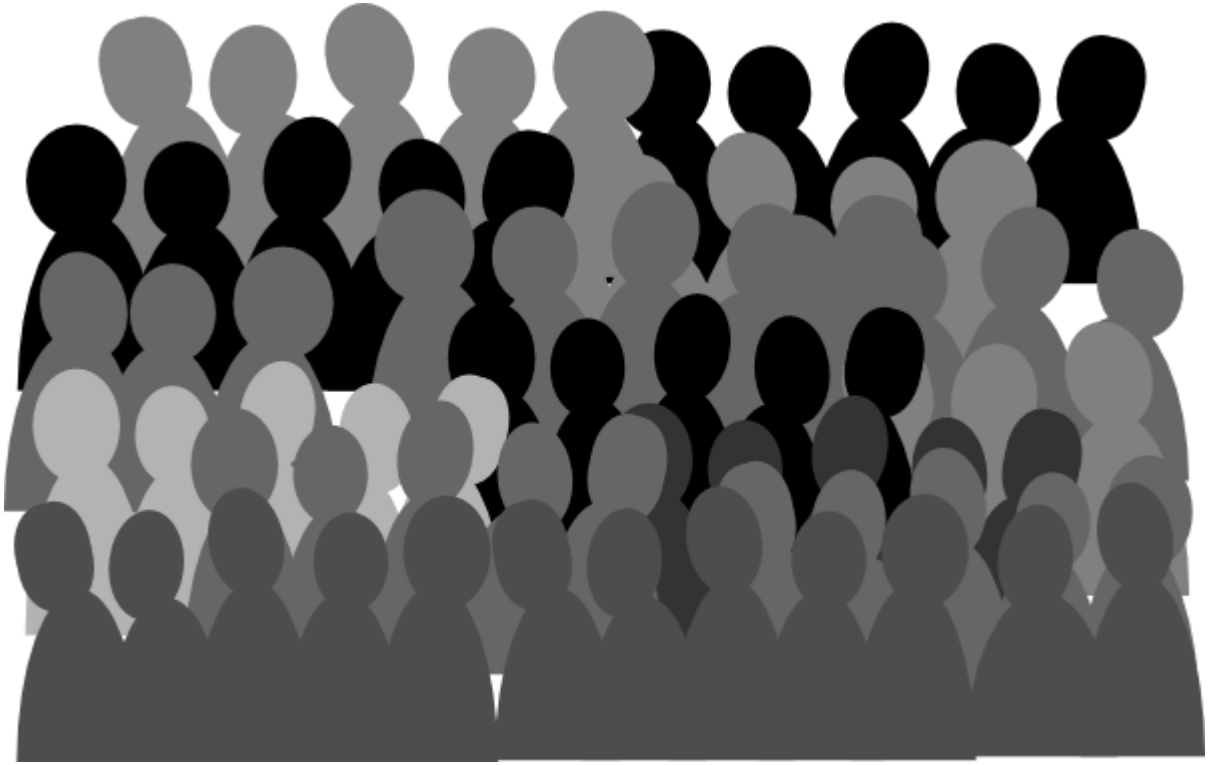
Data shows virtualized x86 platforms do *not* exhibit economies of scale

1.35x *Increase* in cost per VM when going from a medium size deployment to a very large deployment

Source: IDC,; Solitaire Interglobal Ltd.

More physical and virtual servers means significantly increased administration requirements

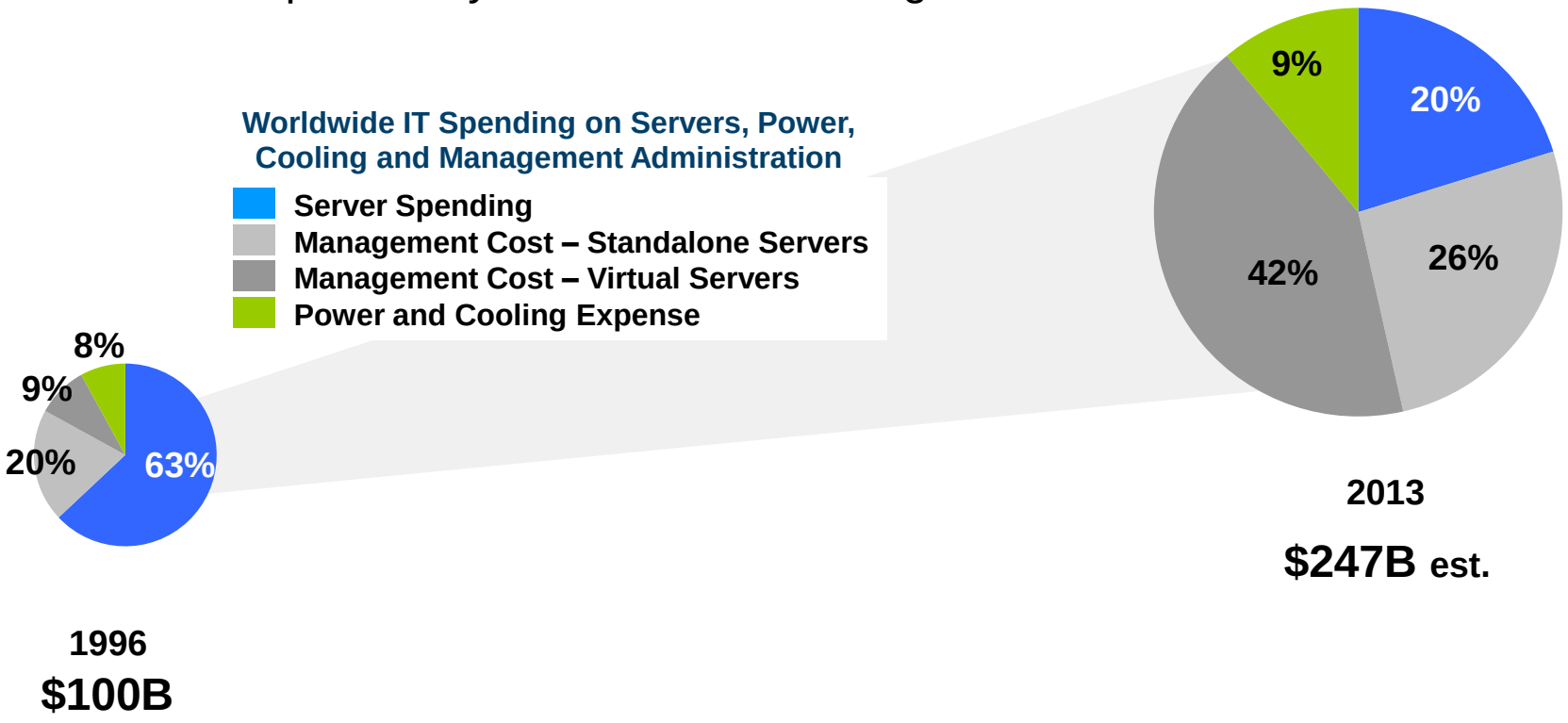
- Management costs for virtual servers (as a component of WW IT spending) has increased from less than $10B per year in 2006 to about $100B in 2013



Source: IDC

How is all this growth affecting bottom-line business costs?

- Demand for IT services is growing at a staggering rate
- Proportionally, the costs are shifting



But, IT budgets are growing at only **2%** per year!

Source: IDC; IBM

So how do we solve this??