Linux, clouds, and a smarter planet

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Global forces are driving a fundamentally different world

- **Global financial crisis is changing business priorities – and the IT that supports them**
  - New incentives to reduce cost
  - Financial crisis putting new lens on TCO claims

- **The business landscape is evolving, and IT must evolve with it**
  - Increased M&A activity in a tight economy requires rapid integration

- **Government IT priorities are increasingly aligned with those of business**
  - Major stimulus packages include both funding for IT infrastructure – and increased scrutiny

- **Technology has enabled solutions that weren't feasible in the last downturn**
  - Bandwidth has evolved, providing greater capacity and reliability at much lower costs

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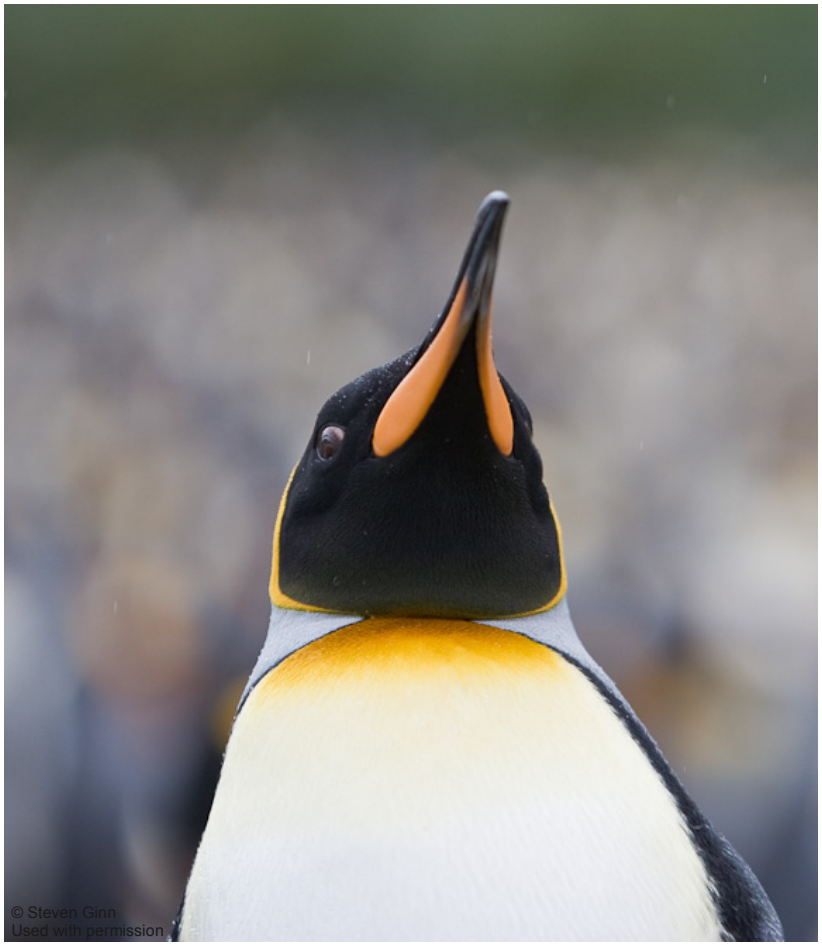
Why is Linux important in the new global economic reality?



- **Linux continues to grow rapidly in share, scale, and scope, even in the downturn**
  - 10 years have passed since IBM's initial public commitment to Linux
  - Linux continues to gain features that enable it to address broadening market opportunities
  - Robust ecosystem enables lower cost, Linux-based alternatives to proprietary solutions
- **Unique attributes of Linux enable novel simplification strategies to reduce cost**
  - Linux enables clients to choose the platform that makes the most sense
  - When consolidating IT operations during M&A activity, Linux can enable asset reuse
  - Consolidating on Linux can reduce OS licensing costs (and CALs), generating savings up to 50%
- **Linux is fundamental to the cloud**

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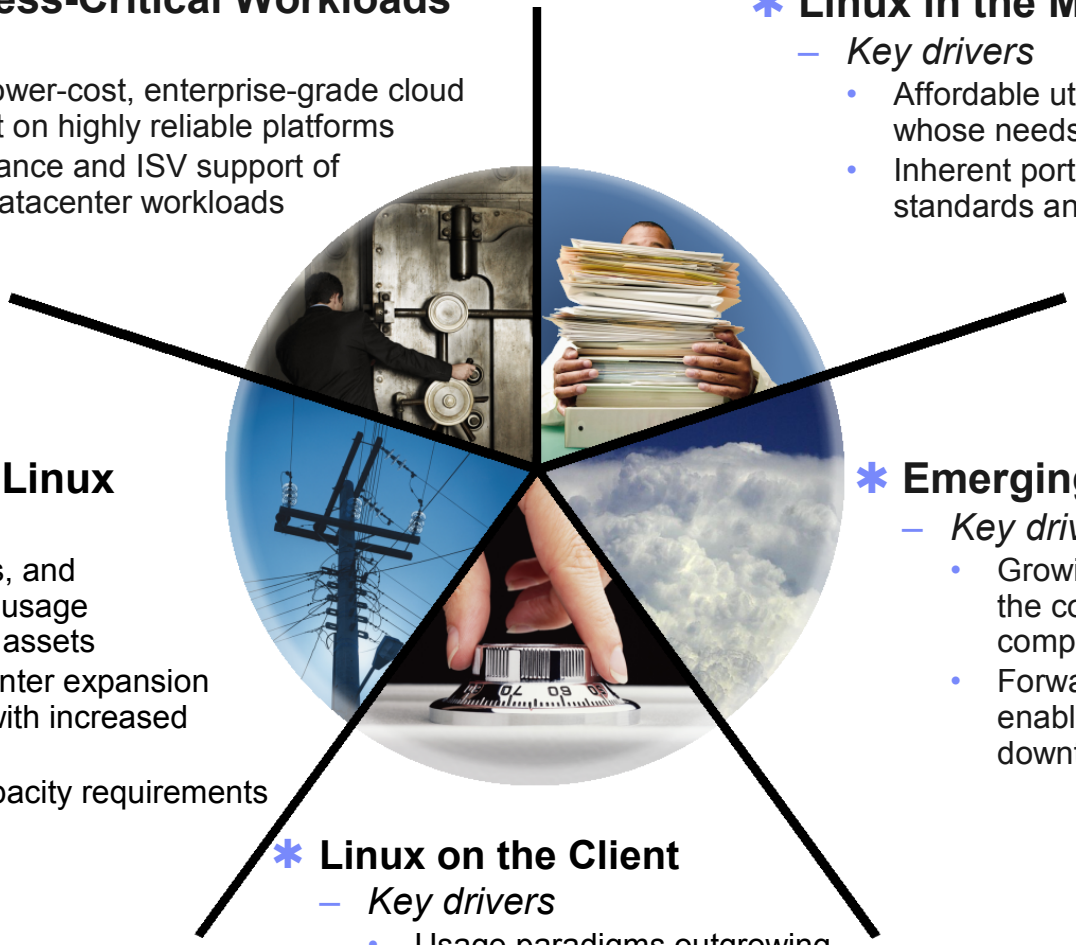
IBM's Linux strategy is aligned with the needs of the cloud

Linux for Business-Critical Workloads
- *Key drivers*
  - Demand for a lower-cost, enterprise-grade cloud foundation, built on highly reliable platforms
  - General acceptance and ISV support of Linux for core datacenter workloads

Linux in the Mid-Market
- *Key drivers*
  - Affordable utility computing to clients whose needs exceed their skills
  - Inherent portability in using open standards and open platforms



Project Big Green Linux
- *Key drivers*
  - Rising energy costs, and increased need for usage accountability of IT assets
  - Incremental datacenter expansion leading to sprawl, with increased management costs
  - Ever increasing capacity requirements

Emerging Technologies
- *Key drivers*
  - Growing need for solution to the complexity problem, as complexity is a key driver of cost
  - Forward-looking platforms must enable acceleration out of the downturn

Linux on the Client
- *Key drivers*
  - Usage paradigms outgrowing one-size-fits-all approach
  - More cloud and SAAS means less desktop restrictions

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Linux enables a smarter planet

Green

- *Linux virtualization and consolidation on IBM Systems*
- *Full cross-platform support reduces cost with skill reuse*
- *Tivoli Active Energy Manager*
- *Blue Cloud*

Dynamic Infrastructure

- *Dynamic cpu / memory allocation*
- *SELinux for security*
- *RAS on all platforms*
- *Unparalleled scalability*
- *Live partition migration*

Working smarter

- *Linux for the enterprise desktop*
- *Heterogeneous productivity tools*
- *Virtual Linux desktop*

New Intelligence

- *Cognos BI on Linux*
- *Real-time Linux*
- *Linux for HPC in commercial applications*

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Bank of New Zealand

A bank uses Red Hat Enterprise Linux on System z10 to reduce their carbon footprint, and address datacenter cost and capacity concerns

The Bank of New Zealand reduce their datacenter footprint by 30%, heat output by 33%, carbon footprint by 39%, and expects a 20% ROI

- **The Challenge**
  - A datacenter with 200 Sun servers was at capacity
  - Bank of New Zealand needed to grow, reduce emissions and costs, become more open, and seeks to become carbon-neutral by 2010
- **The Solution**
  - Consolidate 200 Sun servers down to just 1 IBM System z10 mainframe running Red Hat Enterprise Linux
- **The Benefit**
  - Bank of New Zealand reduced power consumption by close to 40%, heat output by 33%
  - Just one administrator is needed per 200 virtual servers
  - New environments are deployed in minutes, not days

"Deploying IBM mainframes with Red Hat Enterprise Linux to address our carbon footprint and cost savings concerns was a very big deal, especially at the senior management level."

Lyle Johnston
Infrastructure Architect
Bank of New Zealand

http://www.ibm.com/press/us/en/pressrelease/26621.wss

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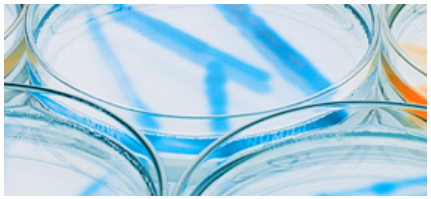
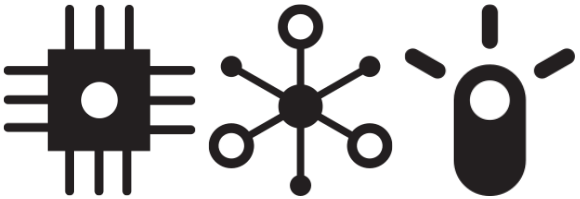
Linux in the cloud: Enabling a smarter planet


- **Providing innovative solutions to the complexity (and cost) problem**
  - IBM is a leader with Linux in cloud computing
    - Established a dedicated cloud organization
    - 9 IBM Cloud Labs around the world
    - 9 private cloud implementations
    - 2 academic alliances

- **IBM helps Linux users reduce cost by providing flexible utility computing**
  - Pay-as-you-go utility computing enables users to smooth IT expenditures over time
    - Replacing periodic capital expenditures with a predictable billing cycle reduces uncertainty
    - Add or remove incremental capacity without introducing sprawl or maintaining idle resources
  - IBM enables others to resell cloud services
    - Consulting
    - Implementation
    - Cloud Delivery
  - Private clouds can revolutionize IT budgets
    - Principles of utility computing – such as accurate measurement and billing – can transform IT from a cost center into a cost recovery center

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Linux and cloud: a continuum of deployment models

iTRiCiTY

Cloud computing now fastest growing area of hosting business by providing a 99,99% uptime guarantee.

"IBM cloud technology with unmatched Service Management capabilities are reliable, fully resilient across multiple centers and compliant to business rules and regulations allowing iTRiCiTY to provision fast and fully compliant IT resources while reducing costs."

http://ibm.com/press/us/en/pressrelease/25585.wss

Wuxi Cloud Computing Center

This Cloud with on-demand virtual computing resources allows 200.000 software developers to share a cost efficient IT environment when they need them, for as long as they need them, from any device, anywhere that has network connectivity; powered by Linux.

"A milestone in service oriented computing."

http://ibm.com/press/us/en/pressrelease/23426.wss

Elizabeth Arden

The world's premier global beauty company worked with IBM to implement a 100 percent reliable solution that assures the global restoration, recovery and resilience of its key mission-critical applications by protecting business-critical information through the cloud.

http://ibm.com/press/us/en/pressrelease/26642.wss

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