Virtualization
Seminar Series

vmware

# What is Virtualisation to IBM

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DISCOVER. CONNECT. VIRTUALIZE.

IBM Australia

# What is Virtualisation to IBM ?

## A view of our world beyond Server Virtualisation

**Siva Subramaniam**

**Consultant - Strategy and Architecture**

**IBM Global Technology Services**

# Agenda

- What is Virtualisation & Some IBM Hardware Innovation
- Server Bottom Line Issue & A/NZ Market Challenges
- Some Directions IBM is taking (inc. Industry Initiatives)
- Overview of Solutions to Help IT Transform Strategically

# What is Virtualisation?

***A logical representation of resources not constrained by physical limitations***

**Optimise** many virtual resources within a single physical device

**Reach** beyond the box — access and manage many virtual resources as one, from anywhere

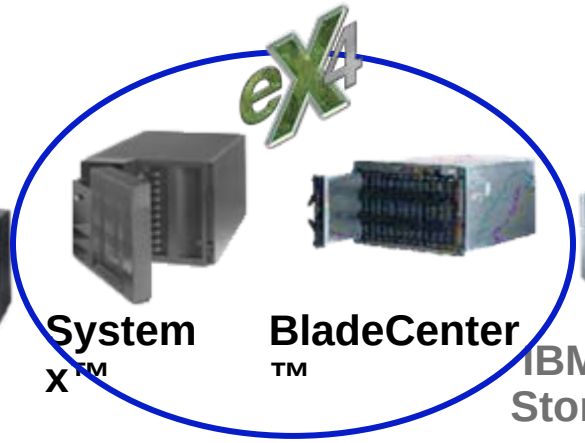
**Dynamically change** and adjust across the infrastructure, “On Demand”

# IBM's Long-Term Focus on Virtualization Across our Systems

System z9™ zSeries®

System p5 ™ pSeries®

iSeries ™




System x™

BladeCenter ™

IBM System Storage ™

OpenPower ®

***While virtualization sounds complex, it's really a simple idea. IBM Systems can provide virtualization capabilities that are unique in the marketplace.***

- IBM mainframe virtualization – 40 year history of world-class innovation
- IBM X-Architecture® designed for virtualization, shared cross platform
- CoolBlue™ - Power and Cooling designs that lead the industry
- Virtualization Management software that simplifies your environment
- SAN Volume Controller – Storage Virtualization for availability
- Virtualization features do not require "rip and replace" upgrades

# VMware Says: Larger SMP Systems are More Efficient !

Tips and Tricks for Implementing Infrastructure Services on ESX Server

vmware®

## *The Benefits of CPU Dense ESX Server Hosts*

**… it will** *generally be better to purchase two four-way ESX Servers than to purchase four two-way machines*.

**Similarly,** *two eight-way servers will provide more scheduling flexibility than four four-way servers*. **…**

**Both x3850 M2 and x3950 M2 were built for virtualization**

*Source: VMware*
Whitepaper: Tips and Tricks for Implementing Infrastructure Services
http://www.vmware.com/pdf/tips_tricks_infrastructure_services.pdf

**Intel Xeon based x3950 M2**


***Superior Scalability***

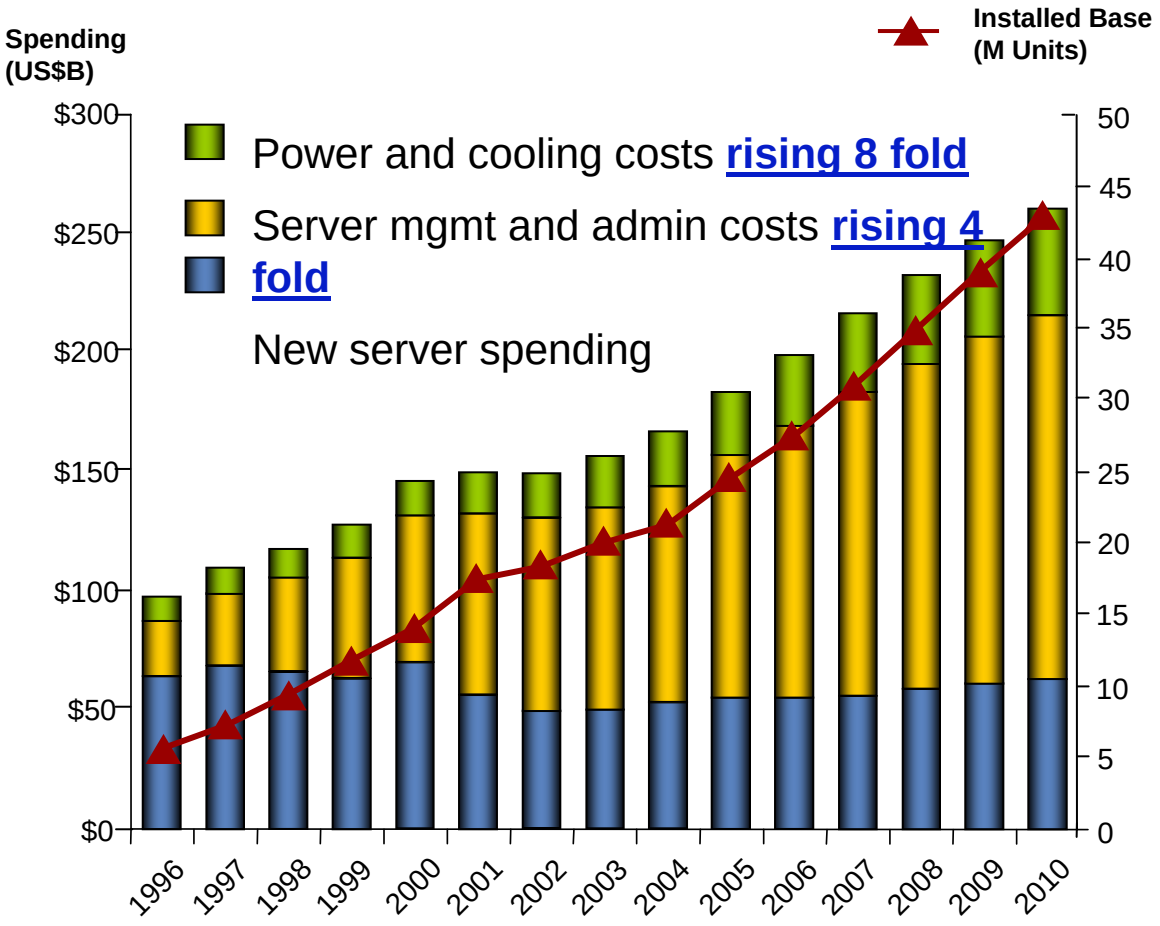
- **Superior 8+ socket performance unmatched by competition.**
  - 64 cores/1TB memory
- **Intel Quad-Core Xeon Processors**
- **Delivering SMP capability at a fraction of the price.**
- **Target Applications:**
  - Virtualization, Enterprise Resource Planning, Customer Relationship Management and database applications.

# Agenda

- Server Bottom Line Issue & A/NZ Market Challenges

# The Bottom Line Costs for IT Spend on Servers

**Worldwide IT Spending on Servers, Power and Cooling, and Management/Administration**




Source: IDC, 'Worldwide Server Power and Cooling Expense 2006-2010,' Document #203598, Sept. 2006



# Some Key Challenges for A/NZ Market

- Human Resources
  - Attract, Integrate and Retain (e.g. Work-Life Balance)
  - Skills Shortage & Employment Cost Containment
  - Generation Y Issues Emerging
  - Flexibility and Mobility
  - Business Process "Optimisation" (i.e. Out-tasking, Off-shoring)
  - Obtain Global Experience and Intelligence

**"Consumerisation is the future of IT. Our top-line advice to businesses is to accept this major phenomenon, learn to control it and ultimately adapt and benefit from it. Products will increasingly be designed for consumers, and IT professionals will just have to work out how to use them within the organisation." - Gartner Group 2006**

*Gartner's chief of research points out that business IT has not kept pace with consumer IT, and is falling further behind.*

# Gartner 2007 & 2008 Predictions (Global)

- 07 - Corporate Social Responsibility (CSR) will be a higher board- and executive-level priority than regulatory compliance from 2006 priorities
- 07 - By 2008, nearly 50% of data centres worldwide will lack the necessary power and cooling capacity to support high-density equipment
- 07 - By 2010, the average CIO's new PCs will fall by 50%
- 08 - Half of travelling workers will use devices other than Laptop by 2012
- 08 - Software-as-a-Service will account for 1/3 of business application spending by 2012
- 08 - Infrastructure will be 40% services based by 2012, following SaaS trend as bandwidth gets cheaper and hosted services mature
- 08 - "Green" buying trends will effect selection criteria more with vendor credential checks, green devices, and IT carbon footprint
- 08 - By 2010, half of user devices will be their choice or influence over IT's

**Consumerisation, Greening & Virtualisation Trends**

# Why IT is Critical to All Business and Government

**Industry**

- Consolidation – M&A activity
- Regulation/deregulation
- Competition inc. overseas
- Cost pressures

**Workforce**

- **Labour challenges**
- **Mobile & remote workers**
- Restructuring
- Governance post OneTel, HIH, Opes Prime


**Technology**

- eBusiness
- Technology pace
- Video/text/voice
- **New products**

**Socio-economic**

- Globalisation
- 24 by 7 world
- Impact of 9/11
- **Environmental**
- **Consumerisation**

# Agenda

- Some Directions IBM is taking (inc. Industry Initiatives)

# IBM is initiating major IT Transformations for our Clients across **people, process and technology**

## People

- **Skills shift from operations (break / fix) to IT Business Analysts**
- **Break down silos and organize around IT service delivery**
- **Paradigm shift toward shared environment**

## Process

- **Standardization**
- **Disciplined**
- **Repeatable and documented processes**
  - Change and configuration management
  - Process automation

## Technology

- **Open standards**
  - Open management across server, storage, networking
  - Open networking standards
- **Role of systems and networking in recentralization**
- **Automation**

# IT Transformation to Utility Computing

**Utility Computing**

- On Demand
- Agile and Flexible
- Proven Delivery
- Business Centric
- Automated

**Service Oriented (SOA)**

- Business Process based
- Cost-aware
- Compliant
- Common Infrastructure
- Service Classes

**Functional**

- Needs based
- Mainly Tactical
- Procedure intensive
- Expensive to Sustain
- Hardware centric

**Tactical**

# IT Industry needs to Mature to a Utility model

Similar to Satellite
TV Services
(On Demand)


Any TV
Any Network

Secure
Easy
Instant

Any Show
Any Program

**Picture Courtesy of Someone Else**

# Agenda

- Overview of Solutions to Help IT Transform Strategically

# Getting started

## *Assess where you are today*

*Simplified* | *Shared* | *Dynamic*

## *Determine the best starting points*

- *Begin with Strategic Roadmap:*
  - Data Center Transformation
  - Service Management Strategy
  - Information Architecture
- *Begin by addressing critical operational issues:*
  - Consolidation & Virtualization
  - Green computing
  - Business Resiliency & Security
  - Service performance
  - IT process automation
  - Optimized information availability

## *Leverage IBM experience*

- Client case studies
- Implementation patterns and blueprints
- Architected approach
- World-class technologies and products

# “New Enterprise Data Center” a holistic, integrated approach


***Enterprise Information Architecture***

***Highly Virtualised Resources***

***Security and Business Resilience***

***Efficient, Green and Optimised Infrastructure and Facilities***

***Business-Driven Service Management***

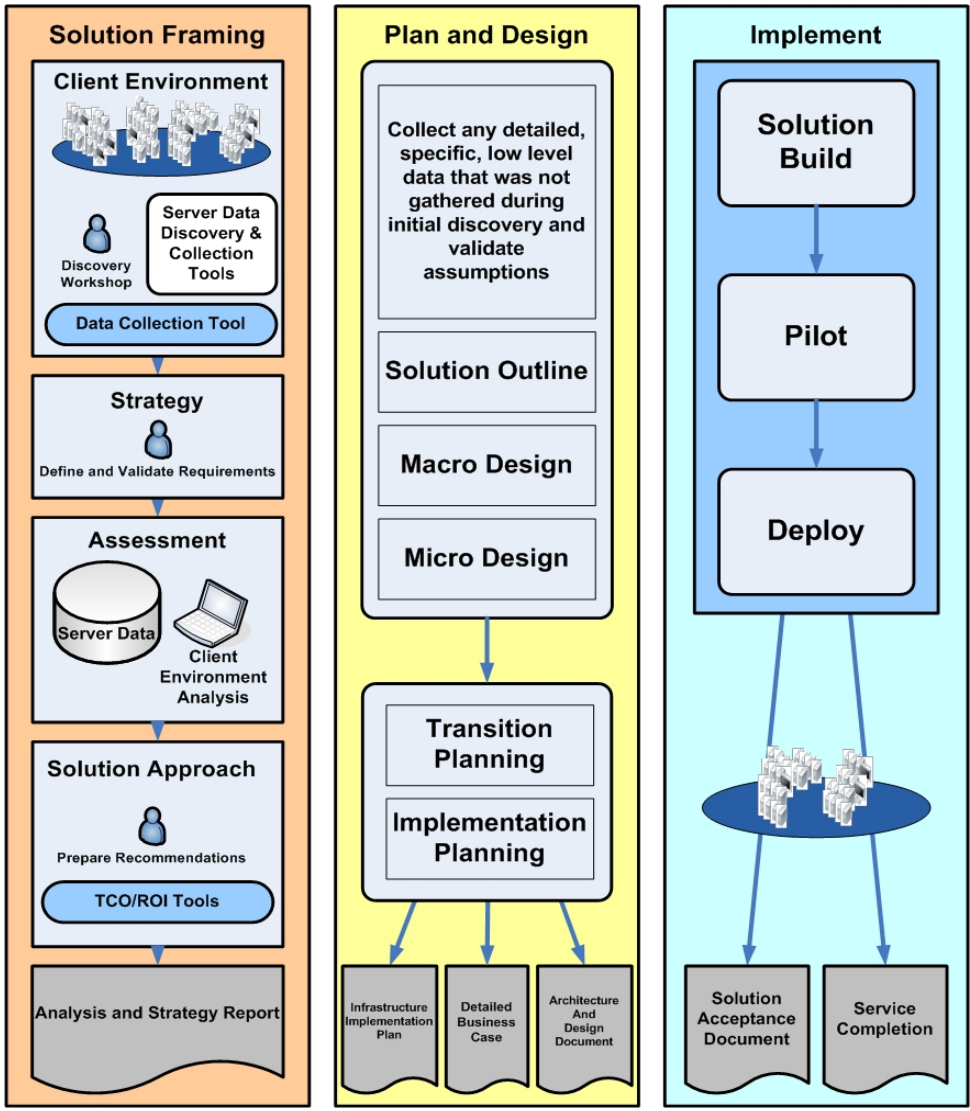
# IBM Server Optimization and Integration Services – VMware Server Virtualization (VSV)

- IBM virtualization methodology takes a proven, structured approach to x86 server virtualization:
  - Solution framing
  - Plan and design
  - Implementation
  - Optional customized post implementation support
- Each focused engagement with unique methods and assets is designed to provide a specific sequence of activities including the development of a virtualization business case
- A comprehensive package of virtualization services focused on hardware and software and IT systems management platform and security are provided.

**Engagement Durations**

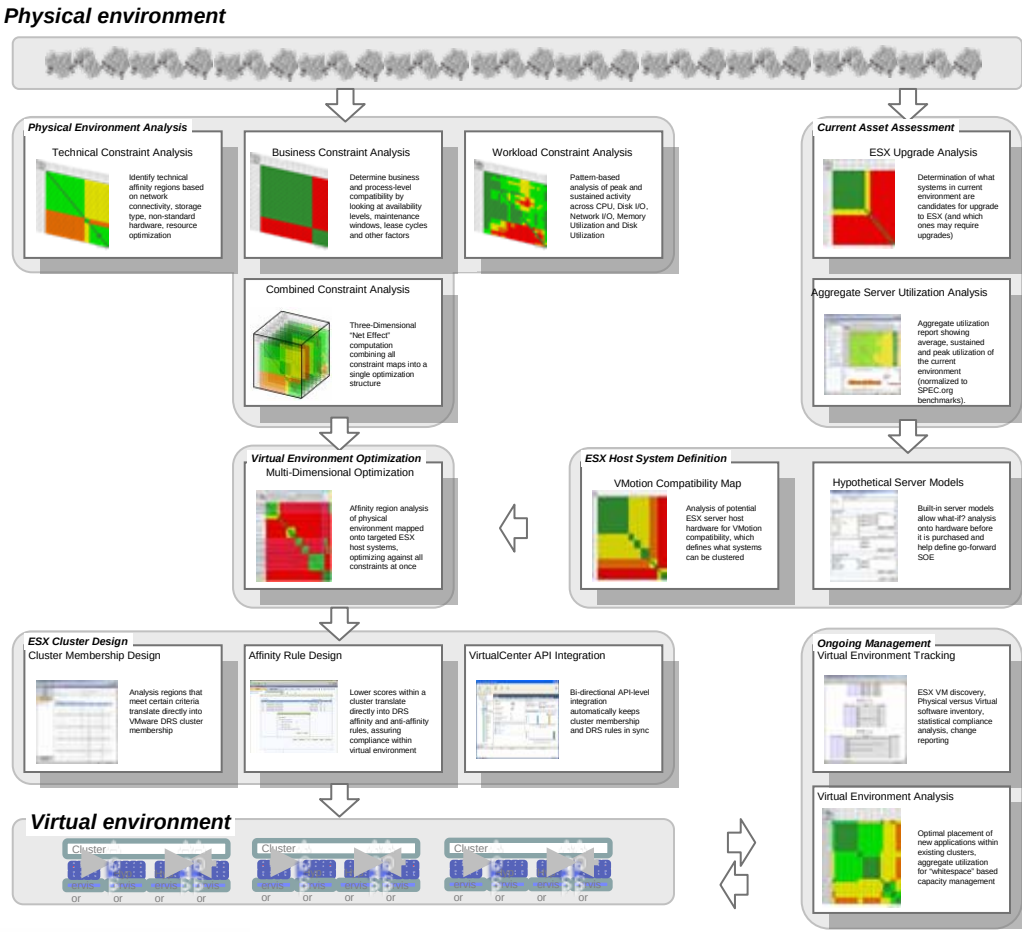
Depending on the client's objective and project scope, the engagement duration may be as follows:

| | |
|---|---|
| **Step 1 - Solution Framing** | From 2 to 14+ weeks |
| **Step 2 - Plan and Design** | From 4 to 14+ weeks |
| **Step 3 - Implementation** | From 8 weeks to 6+ months |

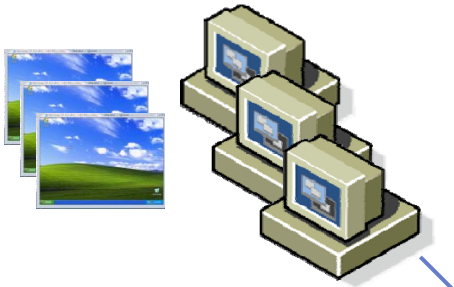


# How does IBM understand the constraints that govern and impact a target environment ?

- Using the Data Center Intelligence Solution for Virtualization Planning and Management tool from CiRBA, IBM rapidly analyzes and visually maps the safest path to an optimally virtualized data center
- CiRBA rapidly evaluates and models the best initial placements by simultaneously analyzing:
  - Technical constraints or “what can go together”
    - Version compatibilities, environmental settings and security configurations
  - Business constraints or “what should go together”
    - Maintenance windows, application owners, locations and departments
  - Workload constraints or “what fits together”
    - Utilization levels and resource consumption patterns of servers
- Integrates to VMware to maintain the optimal state despite constantly changing constraints



# IBM's "VIA"



### Knowledge Workers

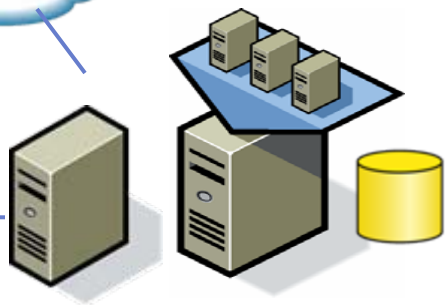
- Replace thick clients with lower cost thin clients
- Preserve thick client usability
- Central management of all desktops

### Branch Office Workers

- Highly secure access to Banking Applications
- Increased Security by replacing fat clients with thin clients

### Transaction Workers, Call centers

- Deploy virtually any application
- Flexible architecture to increase decrease number of seats

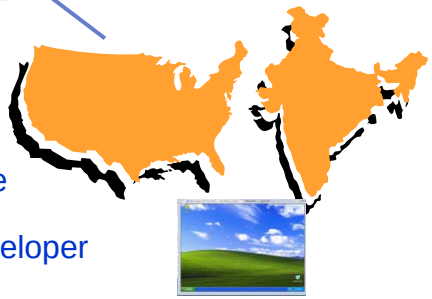


## IBM Virtual Infrastructure Access

- Central management
- Back end storage of Desktop
- Off-line patching of Desktop
- Security policies

### Remote Access

- Access to your desktop from virtually any PC at any time
- Highly secure access to enterprise resources and data
- Deploy virtually any application



### Developer Desktops

- Consolidate multiple developer desktops
- Highly secure offshore development
- Centrally manage developer desktop

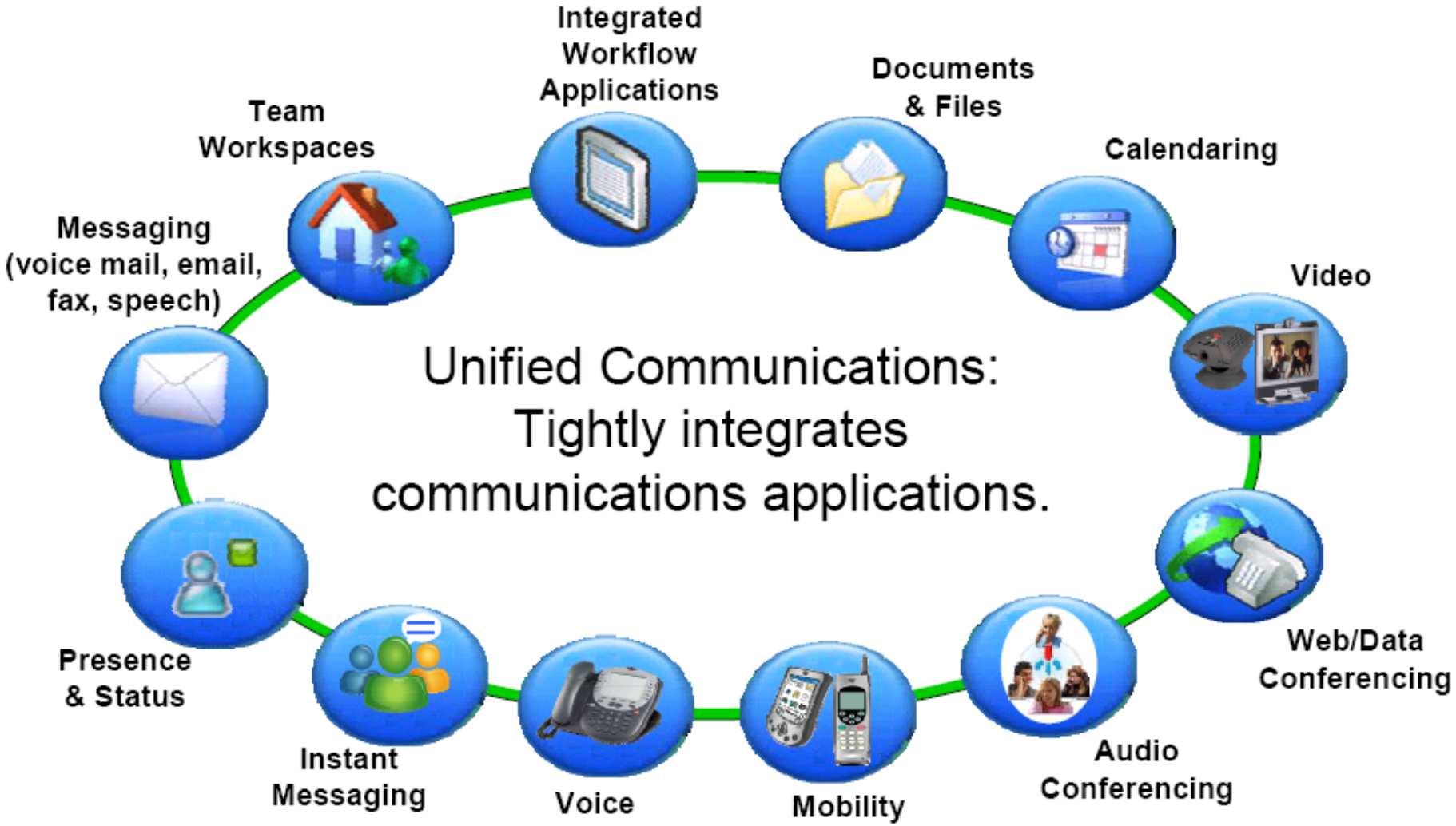
# At 2008 VMworld, GTS “VIA” Solution received a VMware award for “Most Innovative Use of Virtual Infrastructure”

"VMware values the partnership with IBM: It brings the organization, services research, thought leadership and proven methods to this new area of client virtualization with their innovative Virtual Infrastructure Access suite of services.” - Jeff Jennings, VMware Vice President of Desktop Products

IBM Virtual Infrastructure Access- Accredited CTT Mark Award 2007-2008

# Unified Communications & Collaboration

## Enabling Information and Knowledge Exchange - Anywhere




**Picture Courtesy: Wainhouse Research**

# IBM's Own Transformation – Think Outside the Square

## IBM IT Evolution

- Reduced operational costs by US$1.5 billion/year

| | 1997 | Today |
|---|---|---|
| CIOs | 128 | 1 |
| Host data centers | 155 | 7 |
| Web hosting centers | 80 | 5 |
| Network | 31 | 1 |
| Applications | 15,000 | 4,700 |

## Project Big Green

**Double compute capacity by 2010 with no planned increase in resource consumption or environmental impact**

- **375,000+ users globally, with the most diverse range of users, applications, and requirements**
- **Every IBM Laptop/Desktop is a Standalone User Controlled Device (SOE is only for quick imaging)**
- **IBM operates a "Virtual Workplace" including mature Unified Communications & Collaboration**
- **IBM's Local Area Network is "Open" for anyone let in through our doors to use as a Hotspot**
- **IBM has 70,000 Citrix Presentation Server Licenses globally to Virtualise Applications**
- **IBM will convert 30,000 Desktop PCs to Thin-Clients and Virtual Desktops by 2010**

# Virtualisation = Business Transformation

## Thank You

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