



# IBM Data Center Solutions

**Viorel Delinschi**

Business Development Executive

Global Technology Services

Tuesday, September 13, 2011



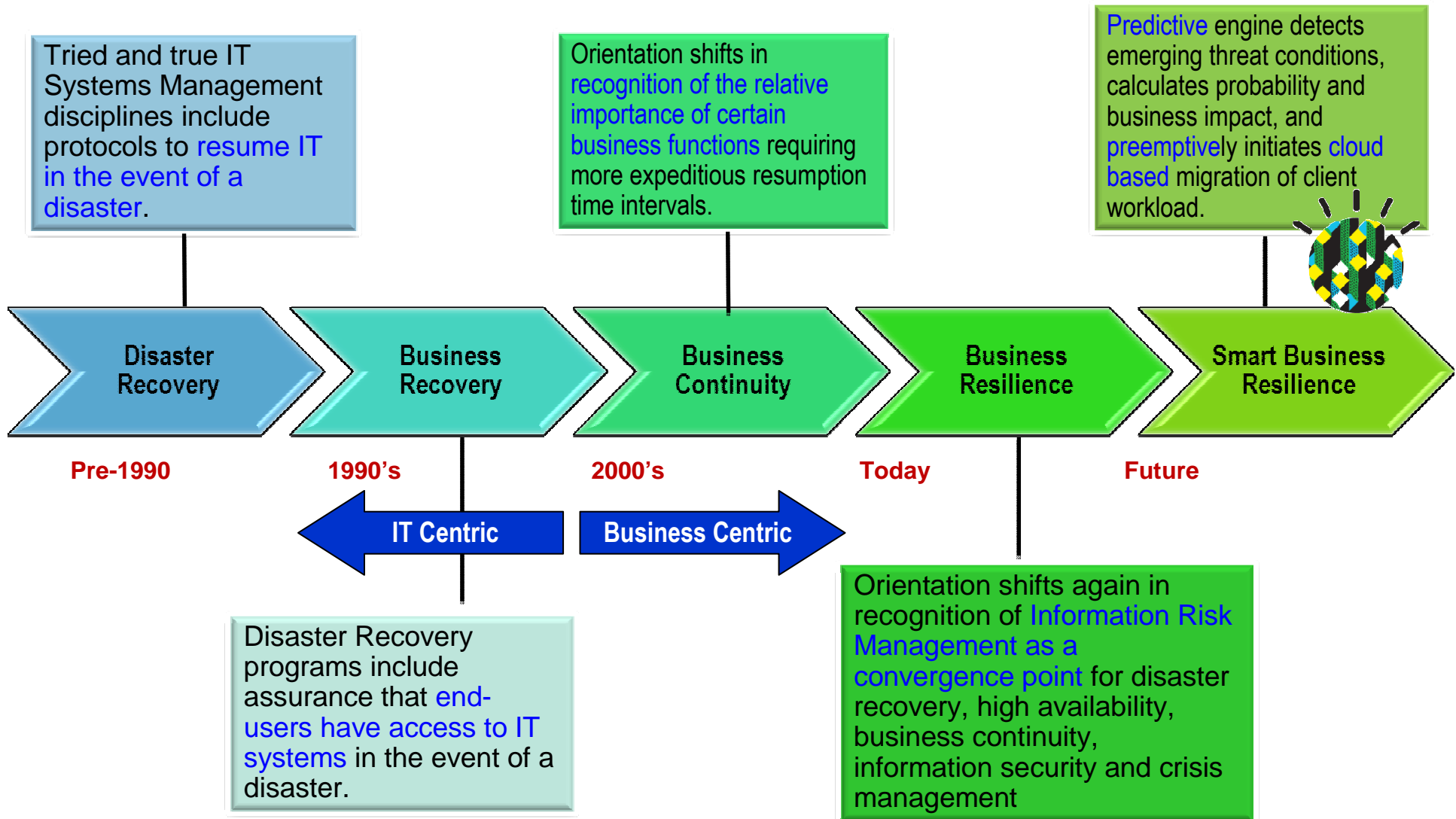


# *agenda*

1	Evolution of the “resilience” industry
2	Future State Data Center Design Framework
3	IBM Resiliency Consulting Services
4	Portable Modular Data Center (PMDC)
5	IBM Managed Data Center in Romania



Evolution of the “resilience” industry started with reactive IT-centric disaster recovery and has transitioned to proactive business-centric business resilience.





# The world is riskier than it used to be...

## Changing environment:

- Expanding risk exposures
- Increased global and regional interdependencies
- Supply chain disruption

## Heightened impact of disruption:

- Greater financial implications of downtime
- Brand vulnerabilities
- Data integrity requirements

## More complex regulations:

- Changing industry and regulatory standards
- Geographic dispersal requirements
- Varying regulations per country

### *Financial Times*

**Disaster recovery: The crucial thing is to be prepared<sup>1</sup>**

### *USA Today*

**Theft of personal data more than triples this year<sup>2</sup>**

### *The Economic Times*

**Data backup, recovery becoming critical to all<sup>3</sup>**

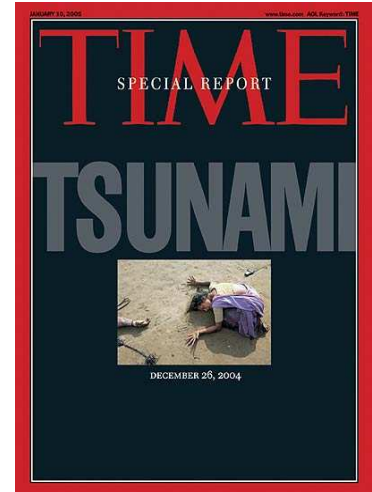
<sup>1</sup> Jane Croft, "Disaster recovery: The crucial thing is to be prepared," *Financial Times*, May 8, 2007,

<sup>2</sup> Byron Acohido, "Theft of personal data more than triples this year," *USA Today*, December 9, 2007

<sup>3</sup> Harsimran Singh, "Data backup, recovery becoming critical to all," *Economic Times*, November 23, 2007



While headline events often mobilize our clients to pause and reflect on their current IT resilience standing. . .





## Trigger Questions

1. How are you keeping pace with changes in regulations, technology and business requirements?
2. What is the cost of downtime in your business?
3. How will you recover from a disaster?
4. What is your plan to establish communications with your workforce in the event of a crisis or disaster?
5. How much is your company's information worth?
6. What technical skills and experience do you have to ensure business continuity and resilience?
7. How are you assessing and quantifying risks to the business today?
8. How do you determine your budget for business continuity and disaster recovery? Are you optimizing based on business requirements and risk tolerance?



As budgets shrink and service level requirements increase, our business becomes even more vulnerable to data loss.

***The impact of lost data or unplanned downtime can be catastrophic, leading to lost revenue, reputation and competitive position.***

**Finances**

- Lost deals
- Disruption of cash flow
- Lost discounts
- Missed payments
- Drop in stock price

**Loss of reputation**

- Company reputation
- Damaged relationships with:
  - Customers
  - Suppliers
  - Partners
  - Lenders
  - Investors

**Revenue**

- Direct revenue losses
- Loss of future revenues
- Losses due to invoices that cannot be completed
- Losses due to investments not made

**Miscellaneous costs**

- Temporary staff needed
- Travel expenses incurred
- Equipment rental costs

**Productivity**

- Employees who cannot perform their jobs
- Missed deadlines

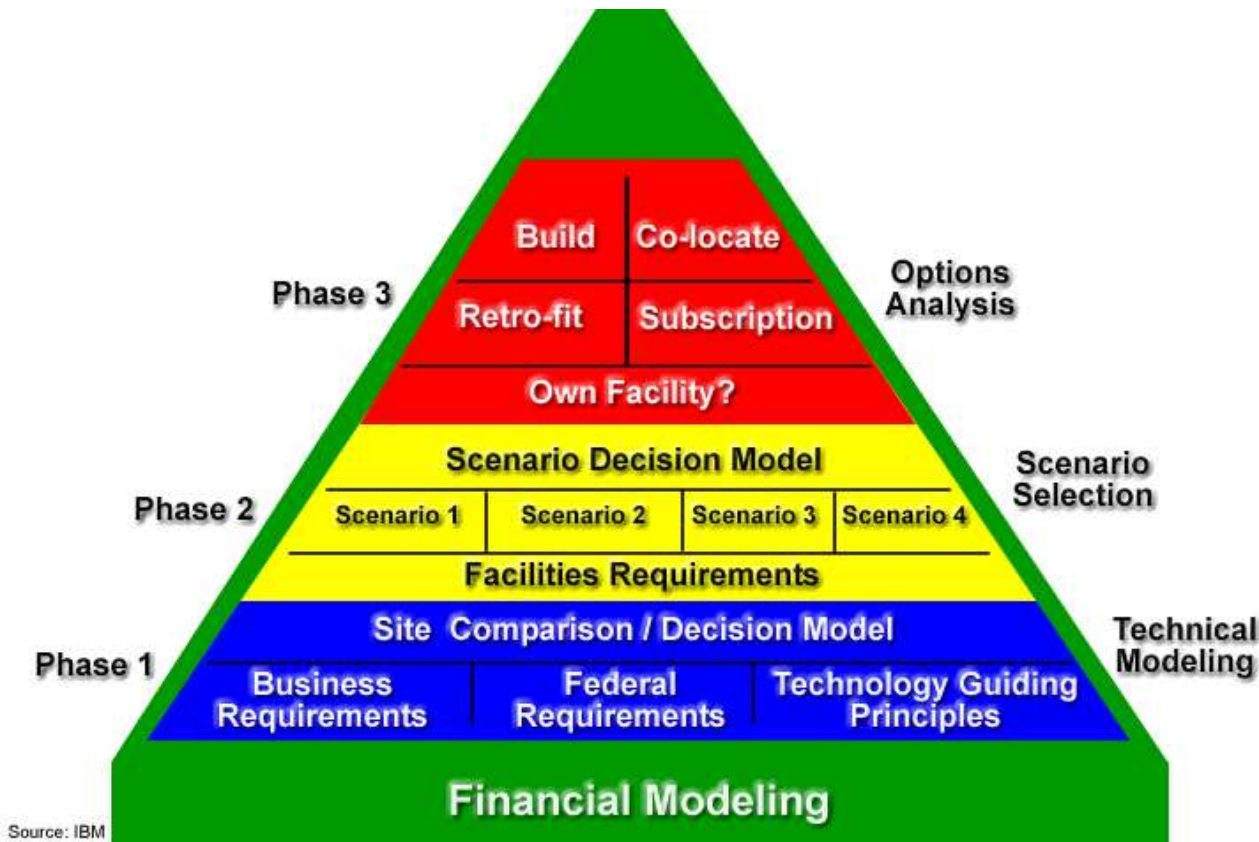
**Regulatory**

- Inability to meet compliance requirements



Structuring the development of the Future State Data Center Design reduces rework and wasted work, strengthens consensus, accelerates decision making and enables the business case.

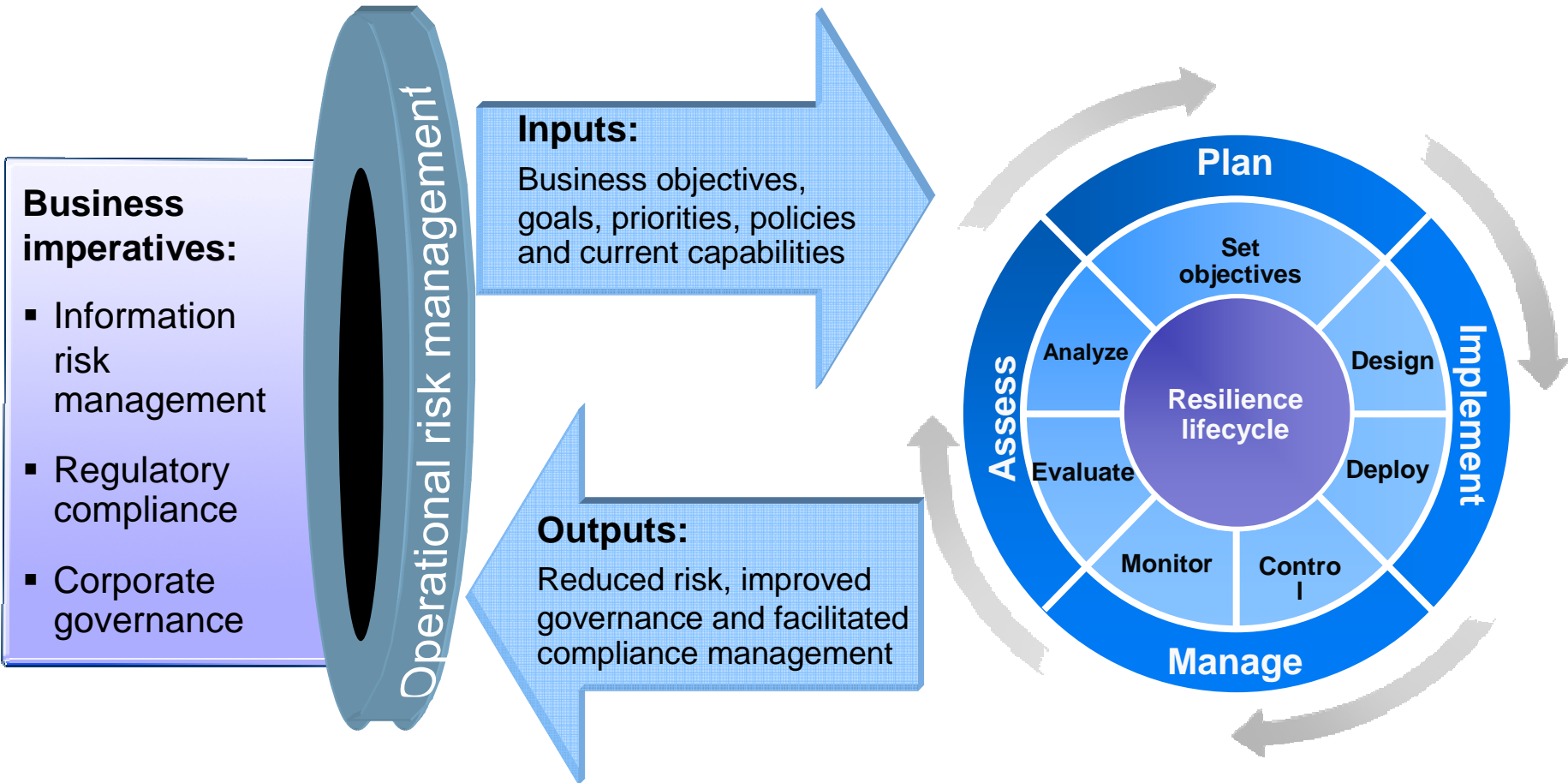
## Future State Data Center Design Framework







IBM Resiliency Consulting Services uses a lifecycle methodology to help clients achieve sustainable improvements in business resilience.





# IBM provides a complete solution and can help clients implement globally.

## DETERMINE REQUIREMENTS



*What are your data center requirements?*

- Intended use
- Installation location
- Capacity
- Power density
- Infrastructure
- Redundancy

## DETAILED PLANNING / DESIGN



*Create a design based on the requirements, defining:*

- Mechanical and electrical systems
- Cooling systems
- Number of containers and racks
- Redundancy levels
- Fire protection
- Security systems

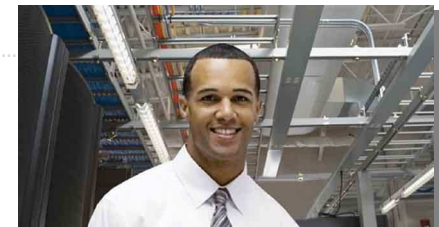
## TURNKEY SOLUTION



*Turnkey solution:*

- Installation site design
- Site preparation
- Electrical, mechanical and network feeds
- PMDC integration
- PMDC installation
- PMDC testing

## START UP TESTING/ SITE TURNOVER



*Site turnover:*

- IT equipment relocation and migration
- Start up / test PMDC system
- Client training



# Design new infrastructure for flexibility with modularity.

*IBM's data center family™ solutions align to your business and cost objectives.*

## Scalable modular data center



**Up to 20% less than traditional designs.**

Turnkey center for 500-2,500 sq ft.

Implement in 8-12 weeks.

## Enterprise modular data center



**Defer 40-50% of capex and opex cost.**

Standardized design starting with modules as small as 5,000 sq ft

Save up to 50% operational costs.

## Portable modular data center



**Fully functional data center.**

Rapidly deploy in 12-14 weeks.

## High density zone



**35% lower cost than site retrofit.**

Without impacting operations.

Watch a video at :<http://www-03.ibm.com/systems/data/flash/dynamicinfrastructure/datacenterdesignsolutions/>



# PMDC configurations

## Single Container Solution

### All-in-one design

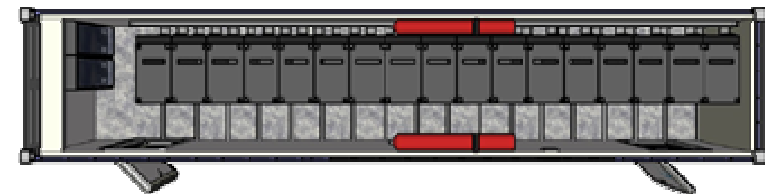
- IT equipment and infrastructure in a single container
- Very compact solution
- Use when space for containers is limited
- Use when IT equipment needs are minimal
- 20' solution: up to five 19" racks
- 40' solution: up to eight 19" racks



## Multi-Container Solution

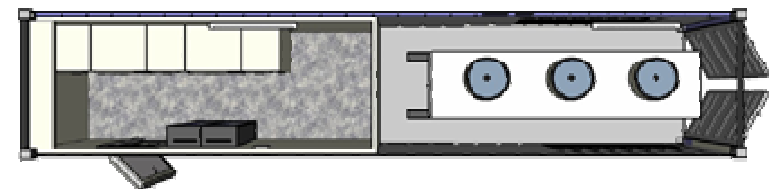
### IT Equipment Container (Server Container)

- IT equipment, cooling, power distribution, fire suppression, remote monitoring, physical security
- Use for maximized IT equipment installations
- 20' solution: up to eight 19" racks or 7 iDPx racks
- 40' solution: up to 17 - 19" racks or 14 iDPx racks
- Supported by physical infrastructure container or existing building services



### Physical Infrastructure Container (Services Container)

- UPS/batteries, power switchboard, chiller, fire detection/suppression, cooling, monitoring
- Designed to support IT equipment container
- 2N or N+1 design





# PMDC: key advantages

- **Fast deployment:**

- shortens time of deployment by 70% Vs. Traditional Data Center.

- **Project simplification:**

- PMDC requires permits for “temporary building”

- **Optimizing CAPEX through modular growth:**

- Use of ISO container building blocks, allows modular delivery adjusted to real business needs, without the need of over-building in case of future expansions (prevents inefficient use of Capital).

- **Multiple and flexible PMDC configurations:**

- Multi-Container Data Center park: ideal for enterprise Data Center. In Tier 2+, Tier 3,...

- All in one PMDC: allows starting small with a complete, compact Data Center infrastructure.

- **Optimized OPEX:**

- State of the art energy efficient technologies (as patented Natural Free Cooling) ensures minimal OPEX.

- **Plug & Play:**

- Pre-manufactured building blocks with all-included (power, cooling, remote monitoring infrastructure).

- **Secure technology suited for outdoors placement:**

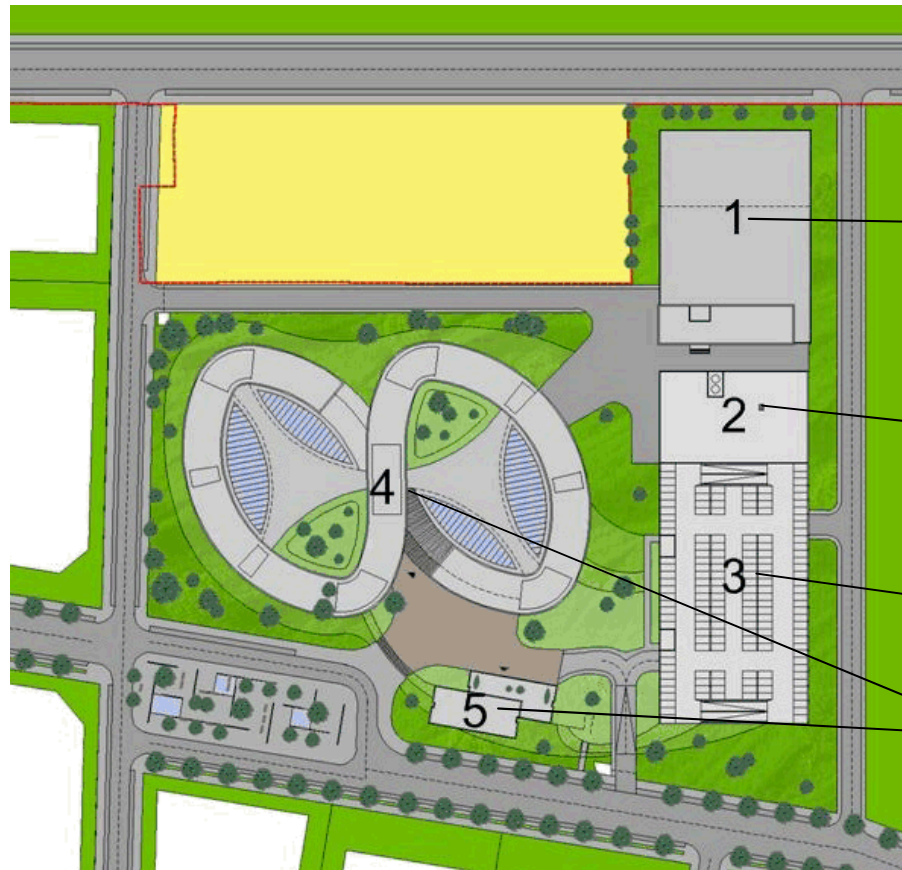
- Its rugged building technology allows it to be placed anywhere outdoors (a parking lot,...) freeing up expensive covered real estate.

- PMDC includes high performance thermal insulation which makes it suitable to be placed anywhere in the desert or in the North pole. Anti-vandalism certified doors.



# IBM Managed Data Center Facility Overview

Location in North of Bucharest,



1. Data Center – 1060 sqm of Data Room

2. Power Plant – own power source + grid power source

3. Multi-story Parking

4, 5. Office Building



## IBM Romania - Managed Data Center

### Data Center Overview

- Top Quality Data Center - Tier 3 compliant (99.982% availability)
- Own power plant. Green Data Center: Tri-generation: Power, Cooling and Heating
- Experience and resources in security, systems, networking and software implementation

### Data Center Specifications

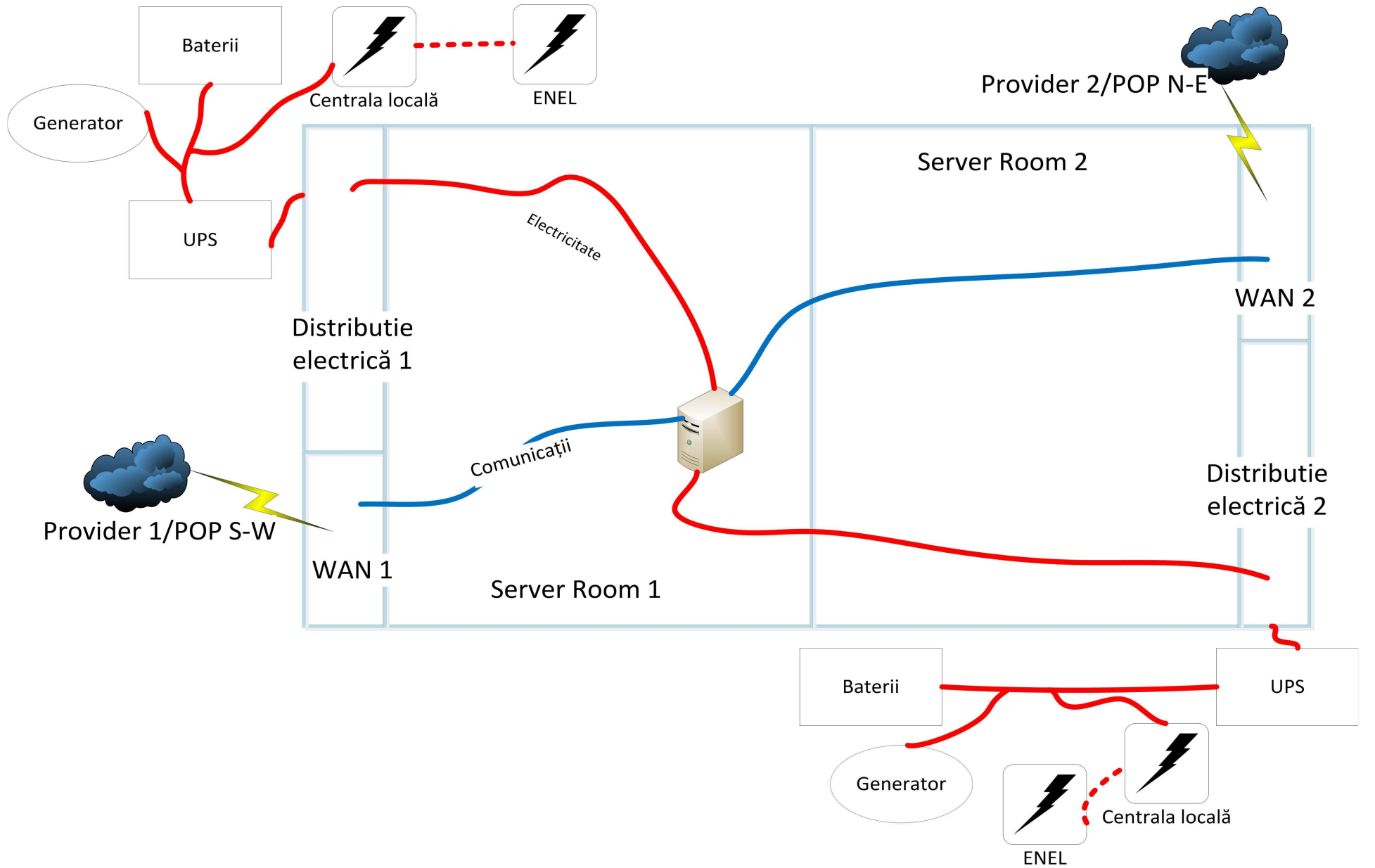
#### Capacity

- 1060 sqm of Data Room space

#### Redundant infrastructure

#### Security & Communications

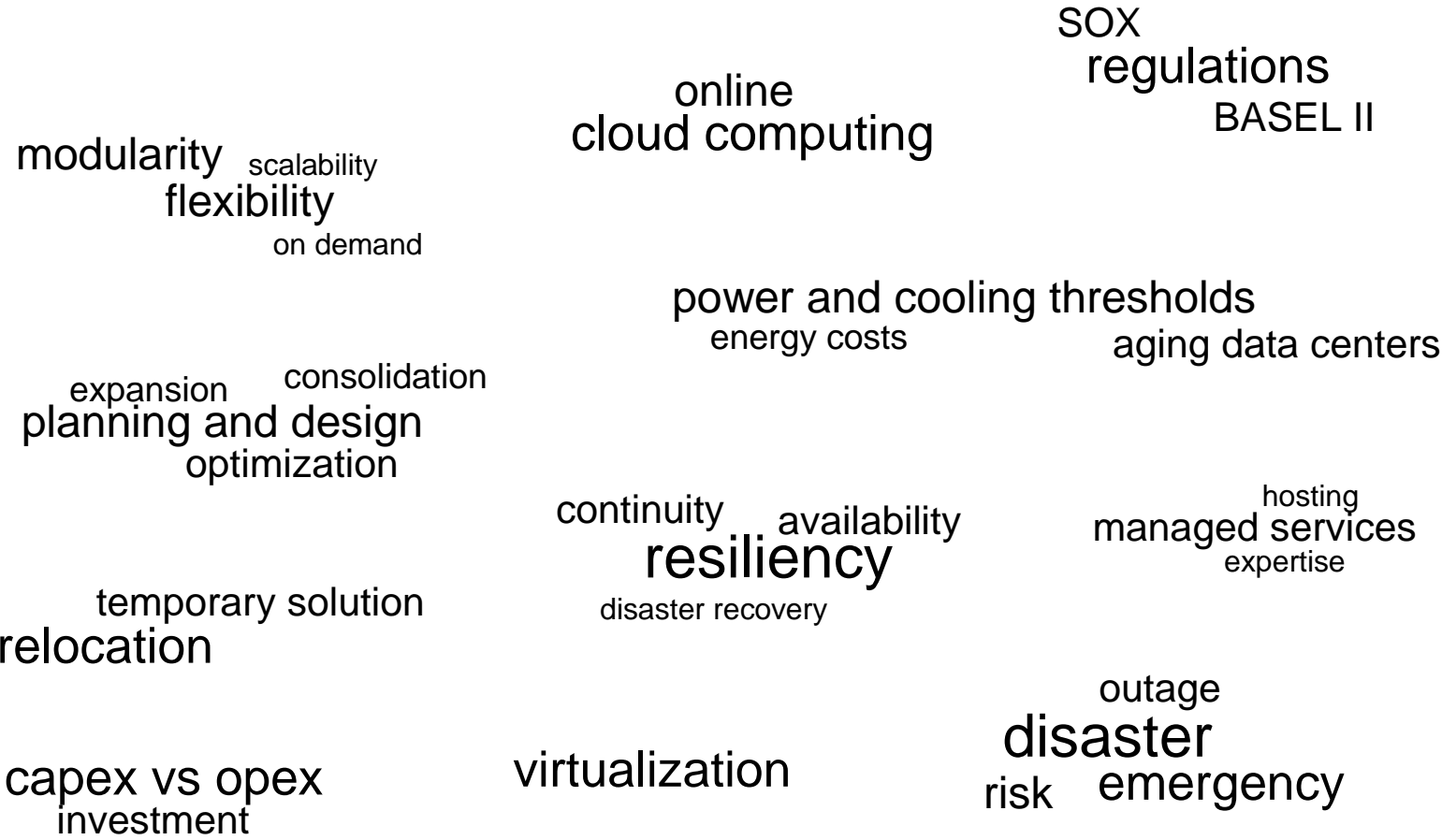






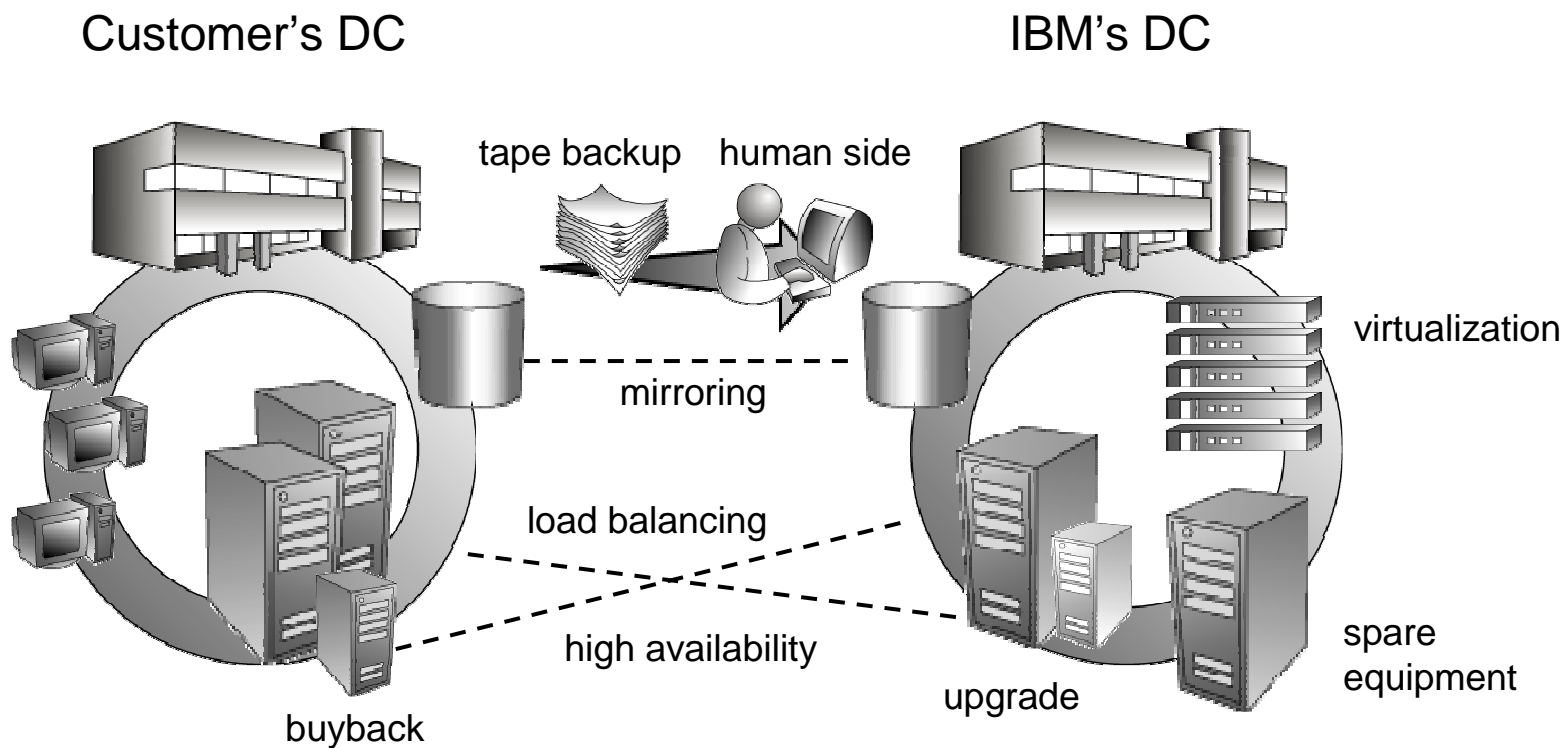


# Business Continuity & Resiliency Services



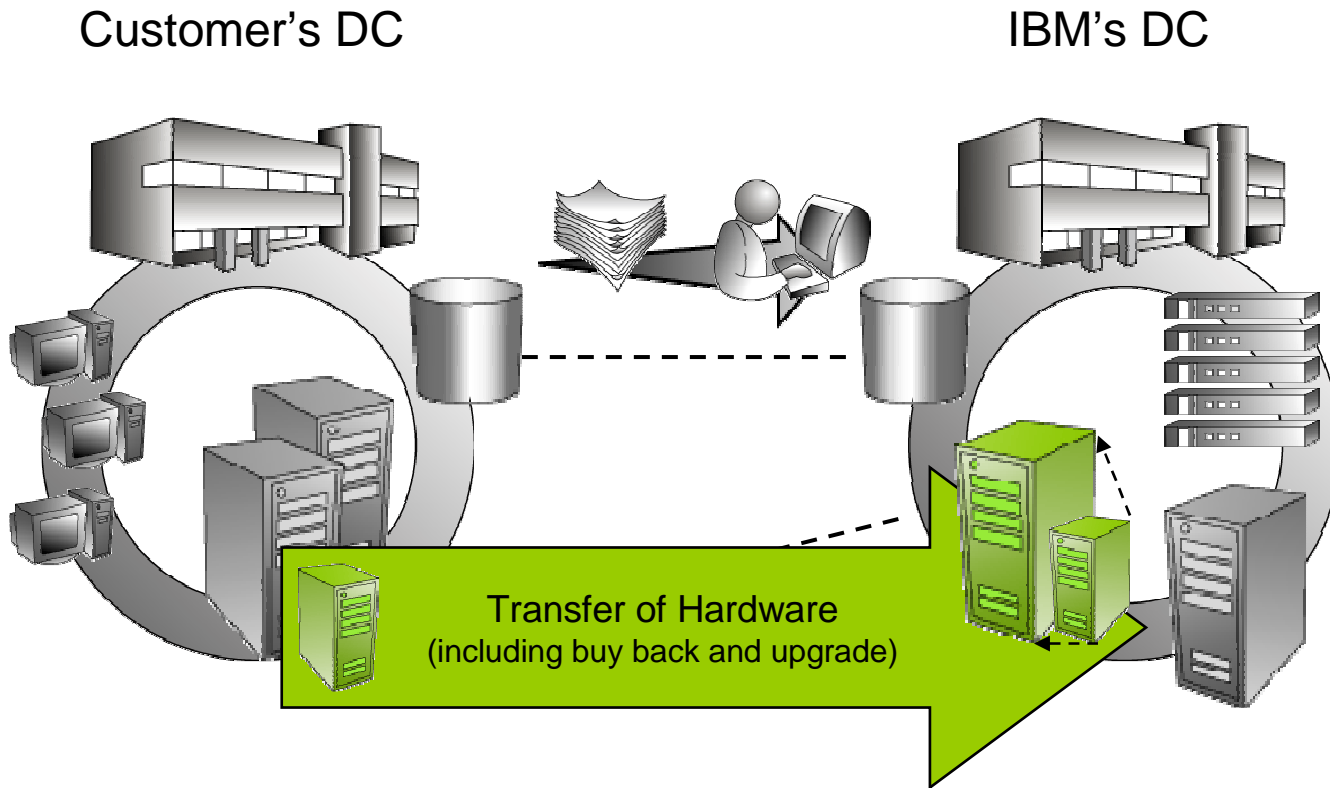


## Possible Solution Design / Components





# Possible Solution: Transfer of Hardware 1 / 2





## Possible Solution: Transfer of Hardware 2 / 2

Customers can **transfer hardware** into IBM DC

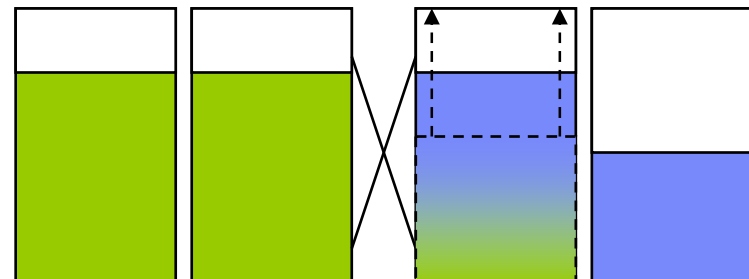
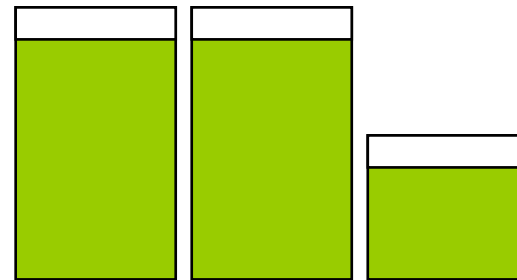
- Reduction of required power and cooling capabilities in own DC
- Reduction of required space in own DC
- Reducing risk due to de-centralization
- No investment in additional backup systems

IBM is able to **“buy back”** customers' hardware

- Reduction in existing assets
- Transfer of depreciations (CAPEX) into ongoing service charge (OPEX)
- Generating one-time cash-in due to sale
- Transfer of responsibility to maintain and upgrade

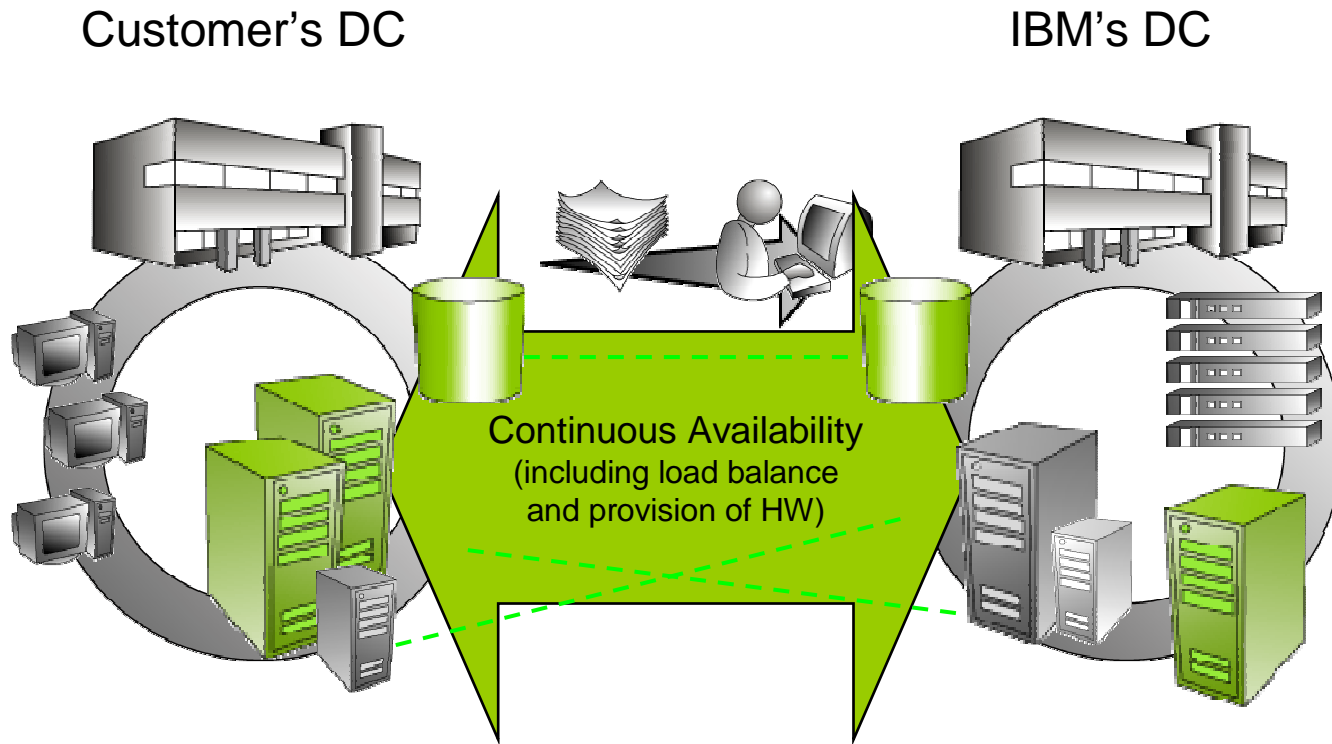
IBM owned hardware can be **upgraded** by IBM

- Adjustment of backup environment to continuously fit customers' requirements
- Upgraded system can ease work load of existing infrastructure





# Possible Solution: Continuous Availability 1 / 2





## Possible Solution: Continuous Availability 2 / 2

IBM can establish a **high availability** solution between the customer's and an IBM DC

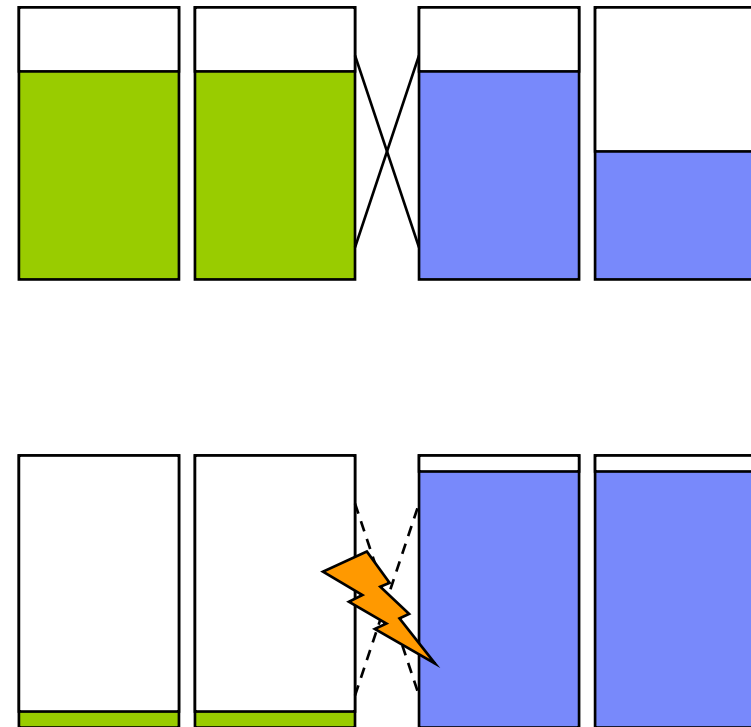
- Possible mitigation of several risk scenarios
- Faster recovery of the processes with improved RTO due to availability of redundant infrastructure
- More recent data available with improved RPO due to mirroring of data (synchronous / asynchronous)

Established infrastructure can be used for **load balancing** during normal operations

- Provisioned hardware is sized above average workload and is expandable
- No additional testing and/or development systems
- Fail-over possible to enable maintenance slots

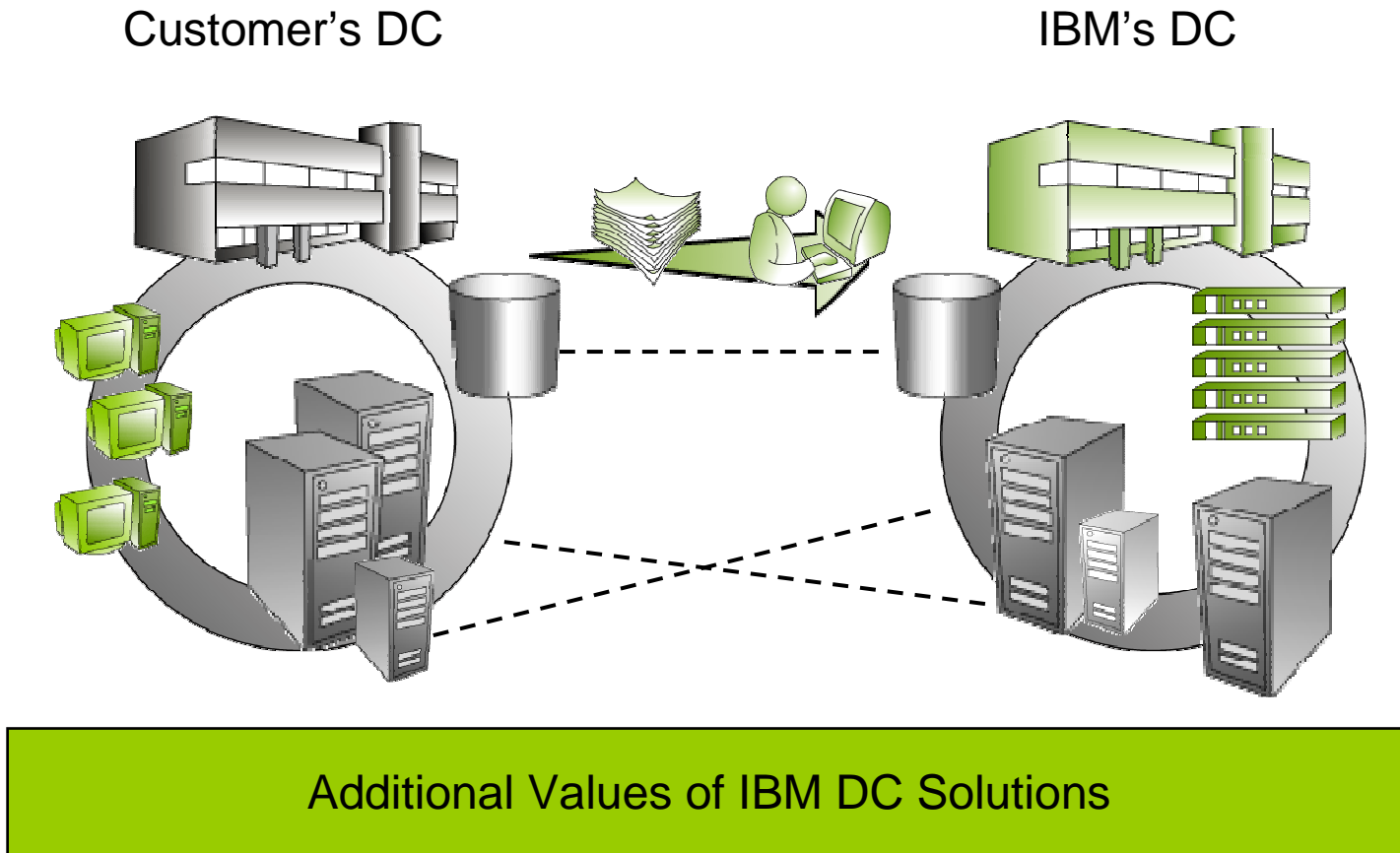
**Spare HW** can be provided by IBM as a service

- No need for additional CAPEX budget
- Maintenance and OS are included
- Costs can be further reduced by using shared equipment (first come first serve or partitioning)





## Possible Solution: Additional Values 1 / 2





## Possible Solution: Additional Values 2 / 2

Access to specialists in new technologies like **virtualization** or cloud computing

- Utilization of IBM know how to increase hardware independency through virtualization
- Increase flexibility in management and provision
- Reduce financial impact of refresh cycles

Utilize a **predictable** and secure environment

- Provision of unique, high quality Tier 3+ DC
- Designed to be resistant against earthquakes
- Per usage charge related to consumed power

Partner with strong track record and ability to support **end-to-end** solutions

- Access to a wide range of skills
- Planning, Design, Transition (relocation)
- Provision of infrastructure and hardware
- Considering also the human side of continuity
- Management and monitoring of components

### Value of going with an IBM DC:

	Financials	Performance	Power / Cooling	Recoverability
Transfer Hardware				
Buy back				
HW Provision / Upgrade				
High Availability				
Load balancing				
Virtualization				

not supporting      fully supporting



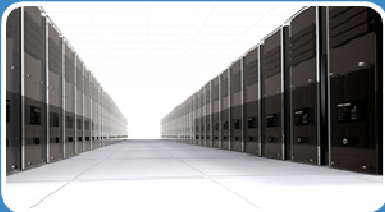


## Benefits.



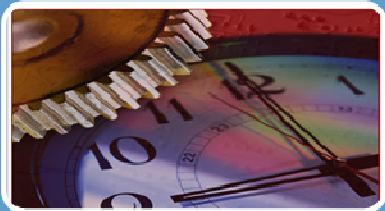
### Cost Reduction

- Lower infrastructure costs (Capex)
- Lower operations and energy costs (Opex)



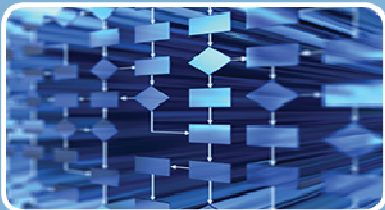
### Elasticity / Scalability

- JIT Infrastructure - Capacity there when you need it
- Ability to handle expected or unexpected changes in load



### Speed to Market

- Reduction of time to rollout new applications/services
- Faster availability to customers



### High Performance Computing

- Increased capacity from your current physical infrastructure
- Avoid provisioning (and paying) for the peak



## Business continuity and resiliency is about...

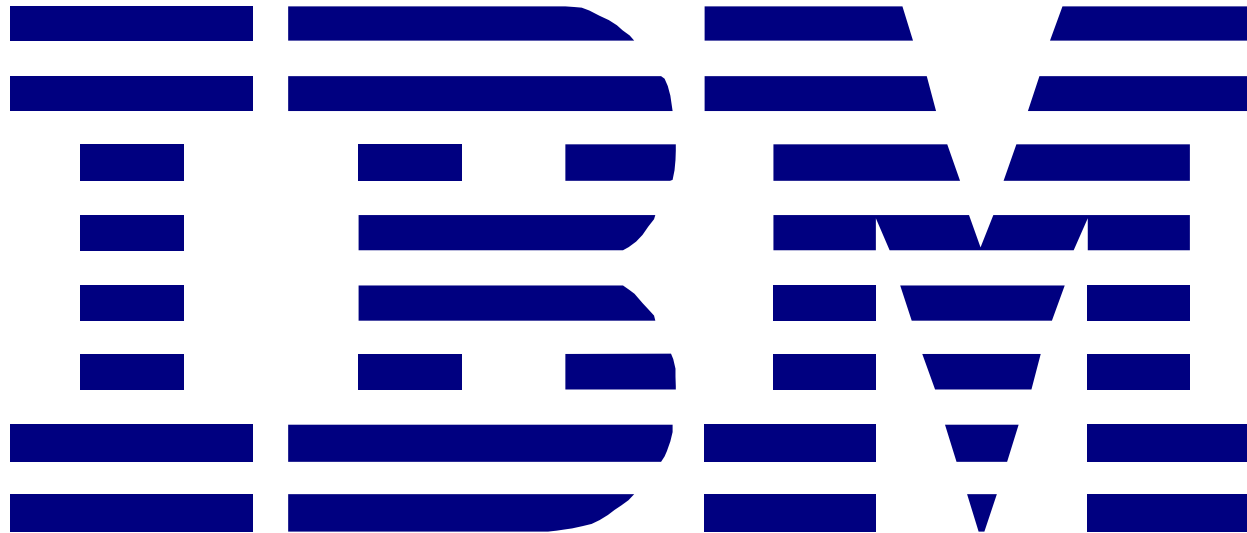


- Protecting your enterprise
- Mitigating business and support issues
- Increasing your competitive advantage
- Protecting brand reputation
- Enabling seamless, continuous business transactions
- Exploiting market opportunities

✓ **How Ready are You?**



# SEE BLUE. THINK GREEN.



**Viorel Delinschi**

Business Development Executive  
Business Continuity & Resiliency Services  
Cloud Computing Services

Mobile: (+4) 0723 313 404

E-mail: [viorel.delinschi@ro.ibm.com](mailto:viorel.delinschi@ro.ibm.com)



## Why Managed Data Center Services from IBM?

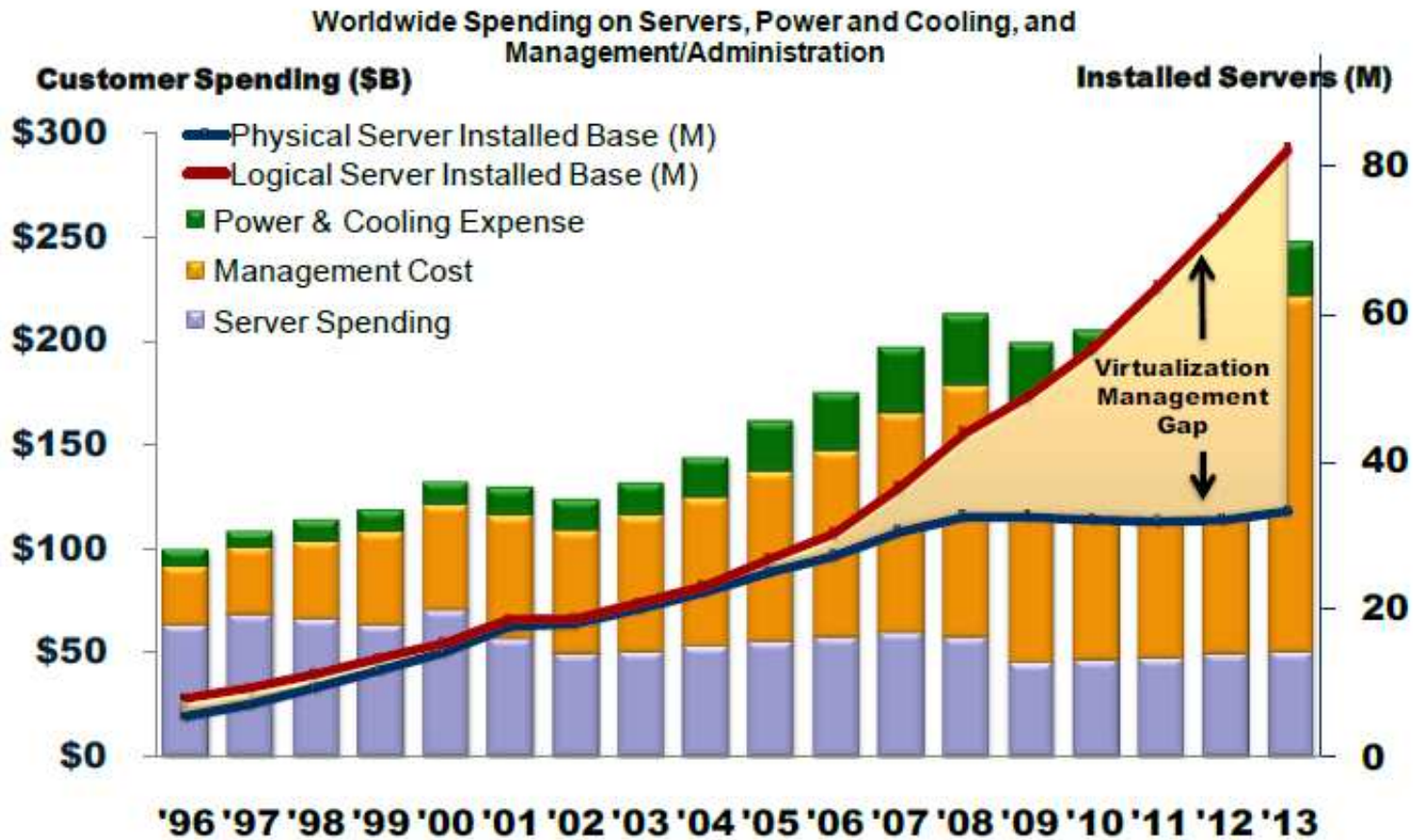
### Smart Resource Utilization

- Highest State-of-the-Art Data Center – Tier 3
- World class processes and services
  - Availability, security, systems, networking, monitoring and reporting
- We charge real electrical power consumption
  - Lowest price for power
  - Power metering system
- More than 30 years of extensive in building new data centers
- No single points of failure





## New Economic Model for the Datacenter



Source: IDC, 2011