

# On a Journey to the Cloud or Lost in the Fog?

Velimir Srića

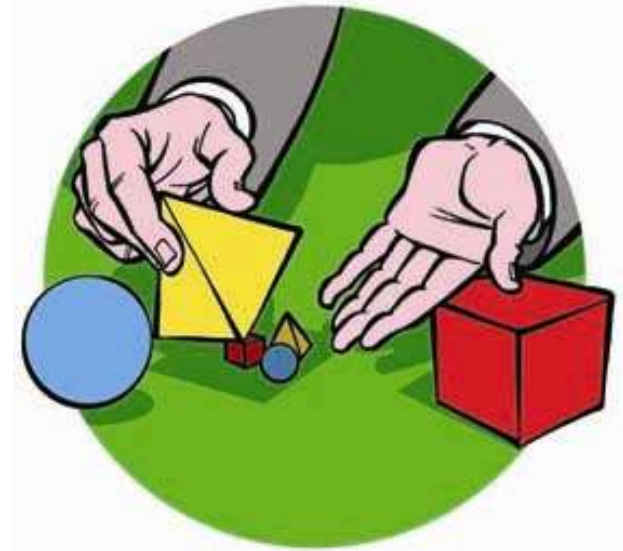


- Banking is necessary but banks are not!

*Tom Peters*

- Information is necessary but IT (as we know it) is not!

- My consulting experience



# ICT - Infrastructure and source of competitive advantage



**ON** the business issues deal with the future shape of the system in terms of its products, services and structure. Working on transformational change means working “on the business.”

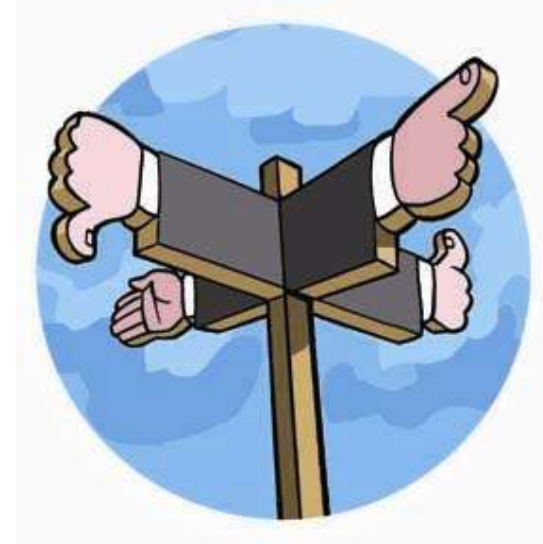
**IN** the business issues concentrate on current operations and improvements. “In the business” issues focus on the current fiscal year. These include the infrastructure required to operate the business effectively at scale.

# An Explosion of Management Tools

- ABC
- MBO
- TQM
- JIT
- OVA
- SVA
- CPR
- SPC
- Virtual Teams
- Reengineering
- Mass Customization
- System Dynamics
- Creative Destruction
- Concurrent Engineering
- Zero-Based Budgets
- PIMS Analysis
- Quality Circles
- Market Disruption Analysis
- Portfolio Analysis
- Experience Curves
- Mission and Vision Stmtns.
- Cycle Time Reduction
- Pay-for-Performance
- Customer Satisfaction Meas.
- Visioning
- Core Competencies
- Baldrige Award
- Micro-Marketing
- MRPI and MRPII
- Technology S-Curves
- Delphi Technique
- Gung Ho!
- ISO 9000
- 7-Ss
- 6-Sigma
- 5-Forces
- 4-Ps
- 3-Cs
- 2x2 Matrices
- 1-Minute Managing
- 0-Defects
- CRM
- Strategic Alliances
- Corporate Venturing
- Self-Directed Teams
- Strategic Planning
- Merger Integration Teams
- Balanced Scorecard
- Benchmarking
- Life Cycle Analysis
- Permission Marketing
- Scenario Planning
- Growth Strategies
- One-to-One Marketing
- Learning Organizations
- Data Mining
- Continuous Improvement
- Value Chain Analysis
- Nominal Group Technique
- Conjoint Analysis
- Competitive Gaming
- Customer Retention
- Groupware
- Psychographics
- Loyalty Management
- Service Guarantees

# What is Cloud Computing?

- Everyone seems to have a different definition
- **Narrow view:** an updated version of utility computing, virtual servers available over the Internet
- **Broad view:** anything outside the firewall is "in the cloud," including conventional outsourcing



# Does IT Matter? (Nicholas Carr)



- Plug-in compatibility
- IT is “just infrastructure”
- **Cloud computing** is the **delivery of computing as a service rather than a product**,
- shared resources, software, and information are provided to computers and other devices as a utility (like electricity) over a network (the Internet)
- Computation as **public utility**
  - elastic provision,
  - online availability,
  - illusion of infinite supply

# How it Works

- Users access **cloud based applications** through a web browser while the software and data are stored on servers at a remote location.
- Cloud application providers strive to give **the same or better service** and performance than if the software programs were installed locally on end-user computers.



# Key Good News

- Cloud computing is a subscription-based or pay-per-use service that, in real time over the Internet, **extends IT's existing capabilities**
- A way to **increase capacity** or **add capabilities without investing** in new infrastructure, training new personnel, or licensing new software





# History

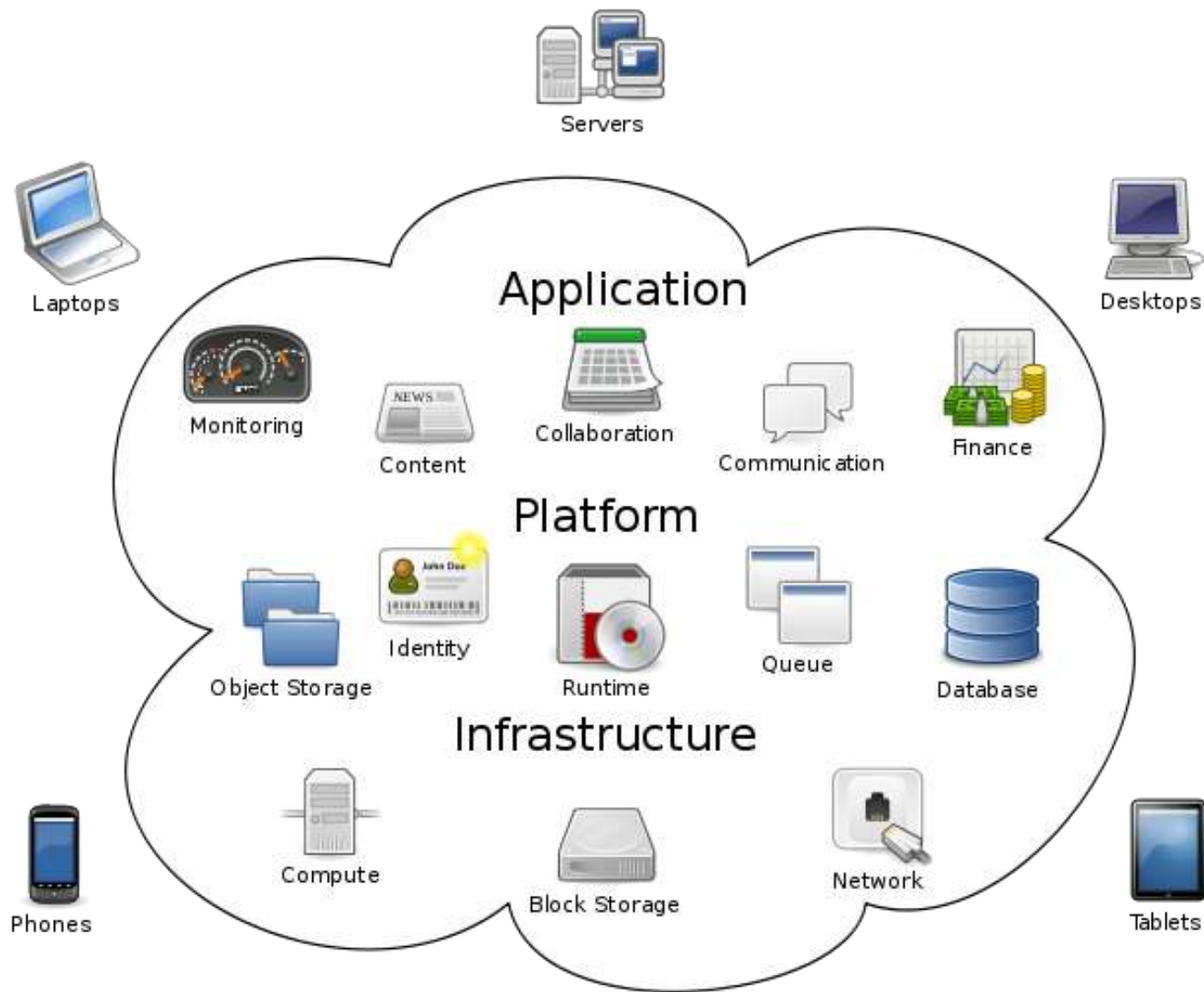
- In the 1950s scientist ***Herb Grosch*** postulated that the entire world would operate on dumb terminals powered by 15 large data centers
- **Amazon** – reorganizing its data center realized that, like most computer networks, they were using only 10% of capacity, just to leave room for occasional spikes.



# History

- CLOUD = Telecom networks since the 90s
- The term is in use since 1996 but becomes a fad since 2007
- Facebook, LinkedIn
- E-bay and online retailing
- Online banking
- Internet TV - a cloud service
- iCloud for iTunes
- Google Maps...





# Cloud Computing

# Cloud or Sky?

- **Cloud Computing** might be more accurately described as **Sky Computing** with many isolated clouds of services which IT customers must plug into individually.
- As virtualization and SOA permeate the enterprise, loosely coupled services running on an agile, scalable infrastructure make every enterprise a node in the cloud.
- It's a long-running trend with a far-out horizon.

# ICT in Transition

1. Old large mainframes + dumb terminals
2. Client server architecture
3. Web-based applications
4. Cloud based computing

Back to where we started???



# Cloud computing = death of PCs?

- Cloud computing = moving away from PCs
- Applications on the web (cloud) so users can use them online, store files online, and **never need any locally installed applications**
- Will users continue using the desktop software, such as MS office, photo and video editing software for its more advanced features and better performance than web-based applications?
- Applications that require a lot of computing power and network bandwidth are not suitable for the cloud computing. (e.g. video editing, photo editing, etc.)

# Types of Clouds

- **Public cloud** cloud applications, storage, and other resources are made available to the general public by a service provider. These services are free or offered on a pay-per-use model
- **Community cloud** shares infrastructure between several organizations from a specific community with common concerns (security, compliance, jurisdiction, etc.)
- **Hybrid cloud** is a composition of two or more clouds (private, community or public) that remain unique entities but are bound together
- **Private cloud** - is cloud infrastructure operated solely for a single organization, whether managed internally or by a third-party and hosted internally or externally

# 1. SaaS - Software as a Service

- This type of cloud computing delivers a single application through the browser to thousands of customers using a multitenant architecture
- On the customer side, it means no upfront investment in servers or software licensing
- On the provider side, with just one app to maintain, costs are low compared to conventional hosting



## 2. Utility computing

- The idea is not new, big ICT companies offer storage and virtual servers that IT can access on demand.
- Early enterprise adopters mainly use utility computing for supplemental, non-mission-critical needs, but one day, they may replace parts of the datacenter.
- Other providers offer solutions that help IT create virtual datacenters from commodity servers, providing a virtualized resource pool available over the network.

# 3. Web services in the cloud

- Closely related to SaaS, Web service providers offer APIs that enable developers to exploit functionality over the Internet, rather than delivering full-blown applications.
- They range from providers offering discrete business services to the full range of APIs offered by Google Maps, ADP payroll processing, the U.S. Postal Service, Bloomberg, and even conventional credit card processing services.

# 4. Platform as a service

- Another SaaS variation, this form of cloud computing delivers development environments as a service.
- Companies build applications that run on the provider's infrastructure and are delivered to users via the Internet from the provider's servers.
- These services are constrained by the vendor's design and capabilities, so you don't get freedom, but you do get predictability and pre-integration.

## 5. MSP (managed service providers)

- One of the oldest forms of cloud computing, a managed service is basically an application exposed to IT rather than to end-users, such as a virus scanning service for e-mail or an application monitoring service.
- Examples range from managed security services or cloud-based anti-spam services to desktop management services

# 6. Service commerce platforms

- A hybrid of SaaS and MSP, this cloud computing service offers a service hub that users interact with.
- They're most common in trading environments, allowing users to order travel or secretarial services from a common platform that then coordinates the service delivery and pricing within the specifications set by the user.
- Think of it as an automated service bureau.

# Coexistence?

- Combination of the benefits of local computing and cloud computing
- Users will continue using their local desktop software, while at the same time, they can store the data locally and/or in the cloud



# “Organizational” Issues

- Competitive advantage is a temporary monopoly (ICT is becoming “utility”)
- Competition of value-chains instead of individual enterprises (ERPs are “open” to chain partners)
- Economies of scale (10% capacity utilization), lower ICT costs
- Internet (cloud) as a metaphor for the new corporation (free flow of information, openness, nonhierarchical, self-organized structure, ideas compete on equal footing, resources are attracted and not budgeted, hackers are heroes)
- Social networks as metaphors for new communication infrastructure (“Cool World” vs. “Rational World”)
- “Sky is all around” – ubiquity of ICT technology
- “Democratization” of ICT technology...

# Thanks for Your Attention!

- We can now do almost anything but are confused about what is worth doing
- [vsrica@efzg.hr](mailto:vsrica@efzg.hr)
- [velimir @velimirsrica.com](mailto:velimir@velimirsrica.com)
- [www.velimirsrica.com](http://www.velimirsrica.com)

