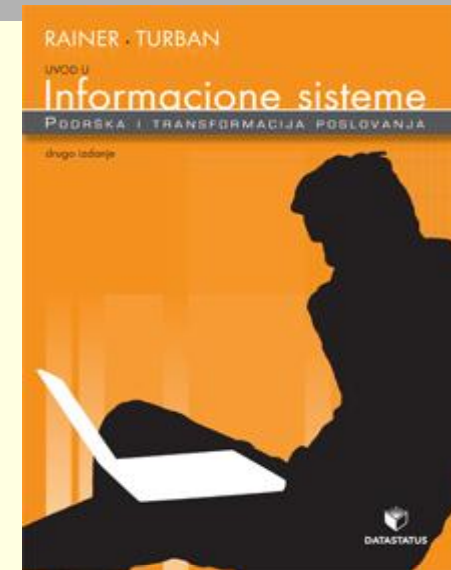


POSLOVNI INFORMACIONI SISTEMI



prof. dr Zlatko Langovi

POGLAVLJE 1

Moderna organizacija u globalnom
okruženju zasnovanom na webu

Pregled sadržaja poglavlja

- 1.1** Informacioni sistemi: Osnovni pojmovi i definicije
- 1.2** Globalna platforma zasnovana na webu
- 1.3** Pritisci koji se javljaju u poslovanju, organizaciona rešenja i podrška IT
- 1.4** Zašto su važni informacioni sistemi?
- 1.5** Plan ove knjige

CILJEVI U ENJA

- Definisati podatak, informaciju i znanje.
- Definisati arhitekturu i infrastrukturu informacione tehnologije.

CILJEVI U ENJA (nastavak)

- Opisati globalno poslovno okruženje i novu infrastrukturu informacione tehnologije.
- Razmotrite odnose između pritiska koji se javljaju u poslovanju, organizacionih rešenja i informacionih sistema.

Uvodni slujaj



Google servers in a server farm



Google Headquarters

Homo Conexus

- Generacija kojoj pripadaju itaoci ove knjige „najpovezanija“ je generacija u istoriji.
- Upražnjavajte *kontinuirano ra unarstvo*.
- Okruženi ste personalnom, pokretnom mrežom informacija.

Personalna pokretna mreža informacija



I....laptop u
akten tašni!

1.1 Informacioni sistemi: Pojmovi i definicije

Podatak

Informacija

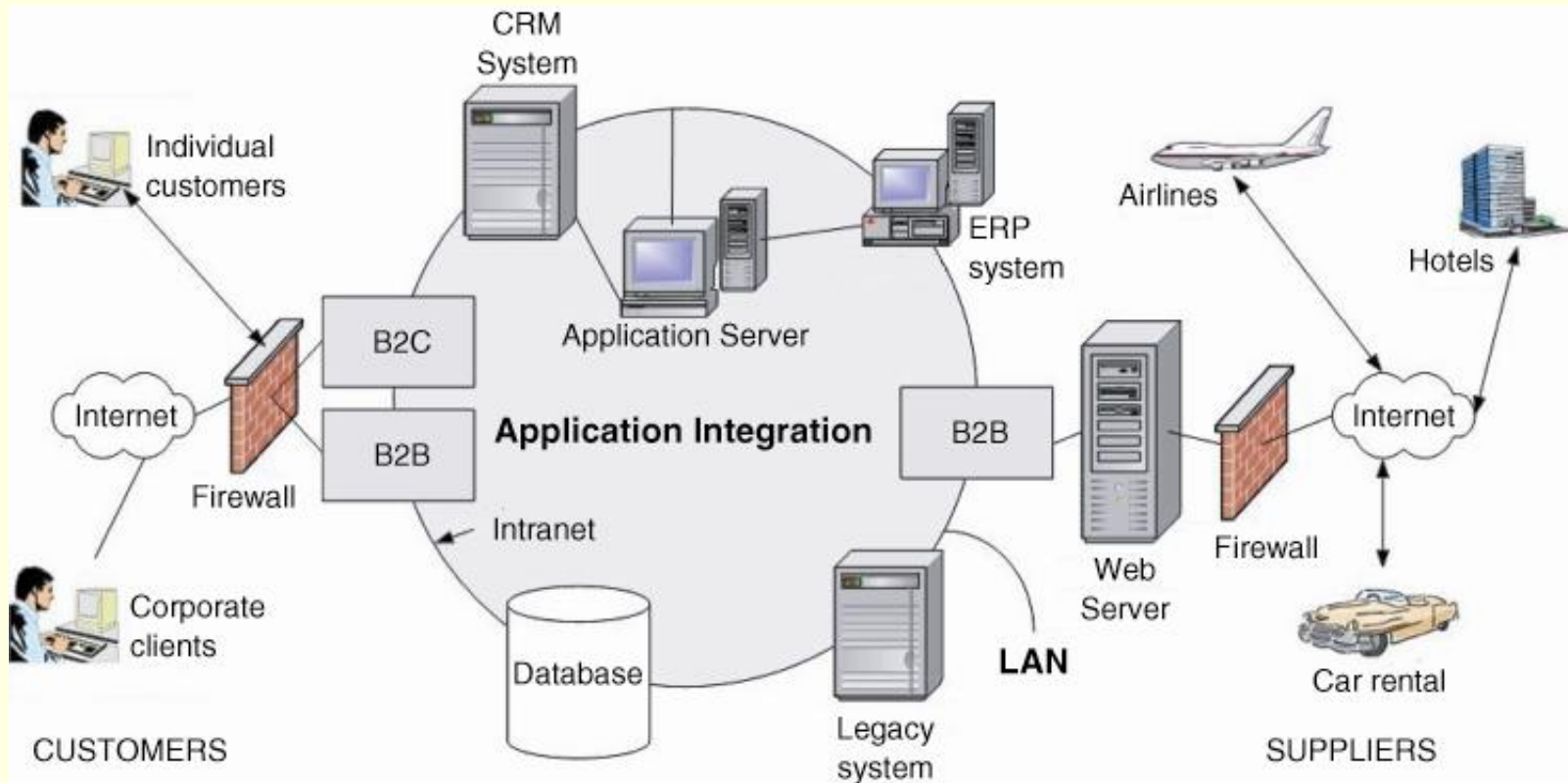
Znanje

Informacioni sistemi: Pojmovi i definicije (nastavak)

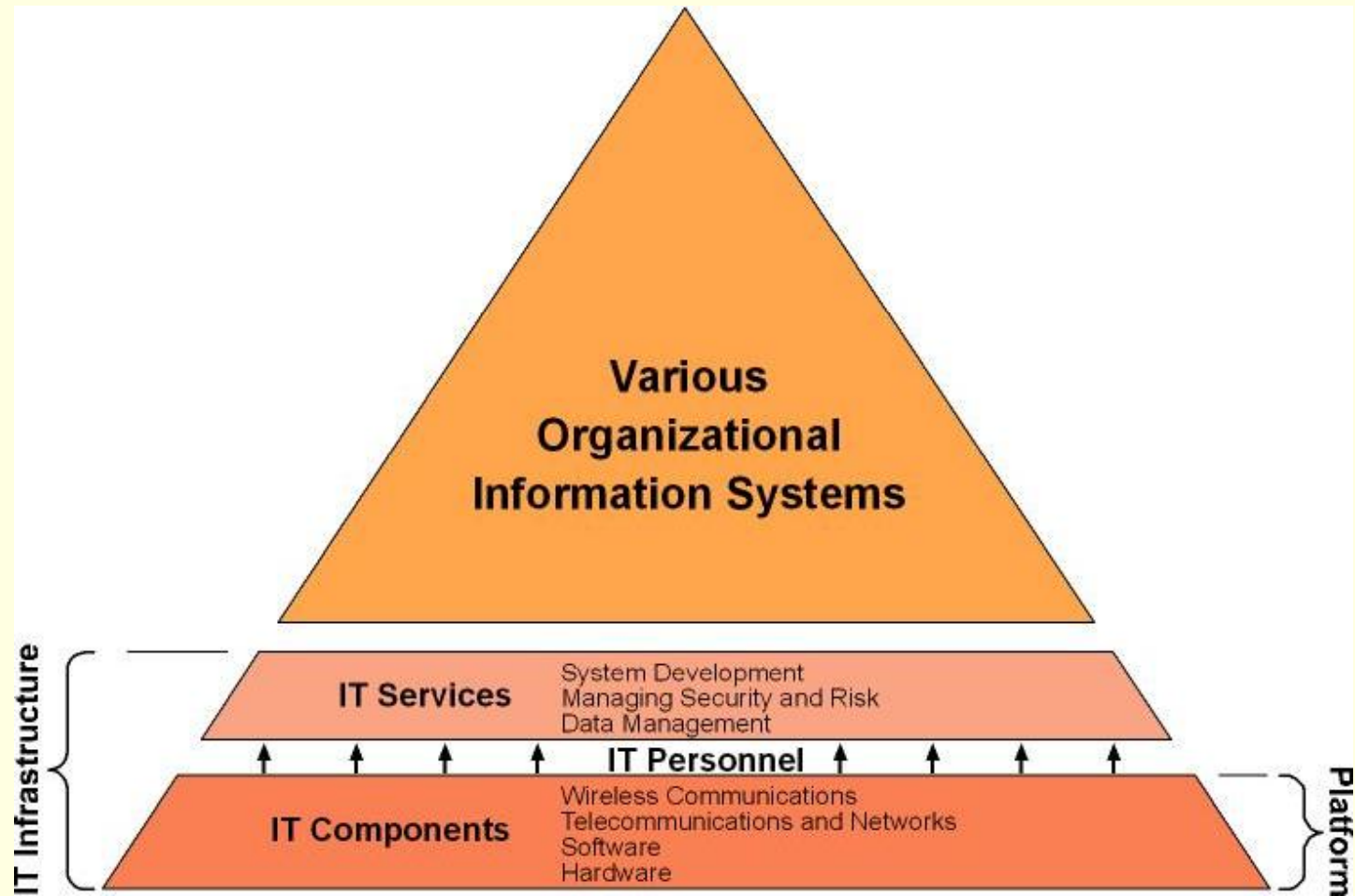
Arhitektura informacione tehnologije

Infrastruktura informacione tehnologije

Arhitektura na internetu putni ke agencije



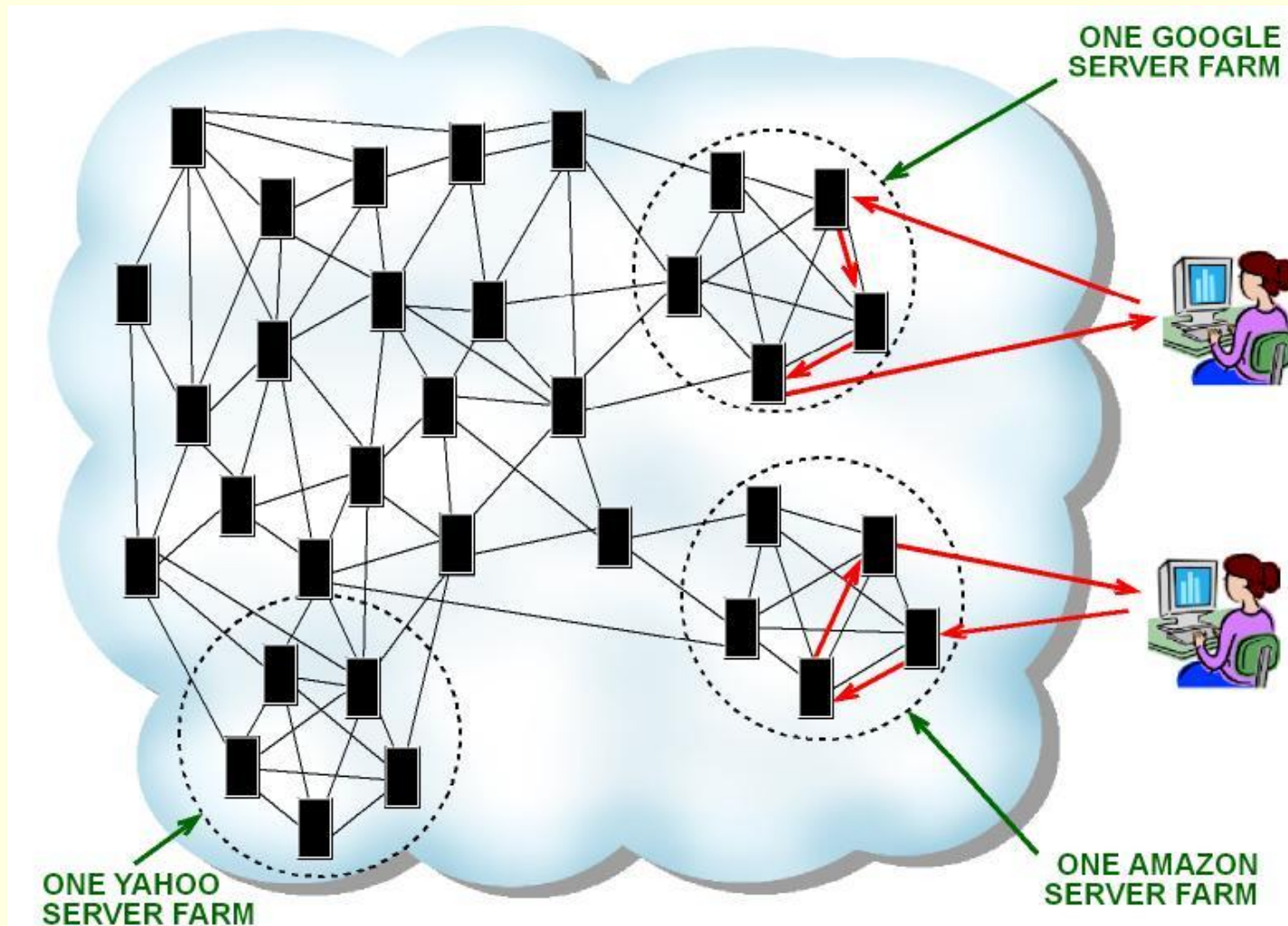
Komponente IT, platforme IT, usluge IT i infrastruktura IT



1.2 Globalna platforma zasnovana na vebu

- Najbolje prikazuje internet i World Wide Web
- Omoguava nam da se povežemo, proraunavamo, komuniciramo, sarajujemo i konkurišemo jedni drugima bilo gde, uvek i u bilo koje vreme.
- Dostupna je bez obzira na geografsku razdaljinu, vreme ili jezičke barijere.

Globalna platforma zasnovana na webu



Stadijumi globalizacije

(Knjiga Thomasa Friedmana *Svet je ravan* (The World is Flat))

- Globalizacija 1.0 (od 1492. do 1800)
- Globalizacija 2.0 (od 1800. do 2000)
- Globalizacija 3.0 (od 2000. do danas)



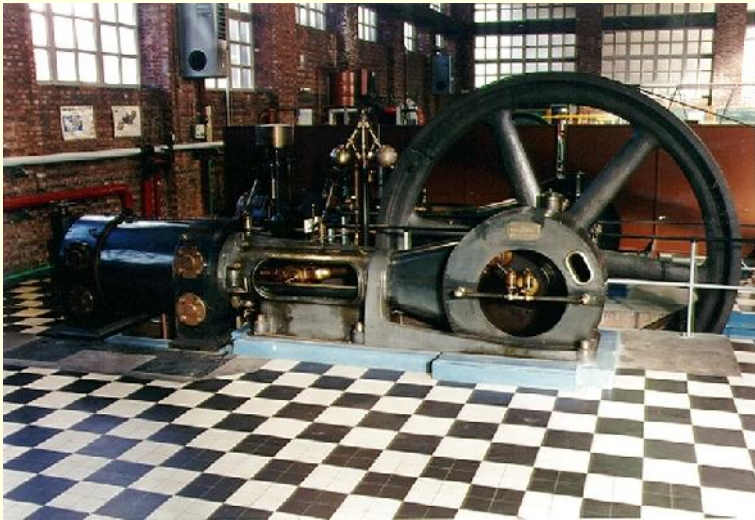
Globalizacija 1.0



Christopher Columbus



Globalizacija 2.0 (prva polovina)



Steam engine

Pruge



Globalizacija 2.0 (druga polovina)



Sateliti



Opti ki
kablovi



Apple Mac Pro

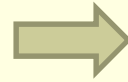


OpenMoko open source smart phone

Globalizacija 3.0



1.0

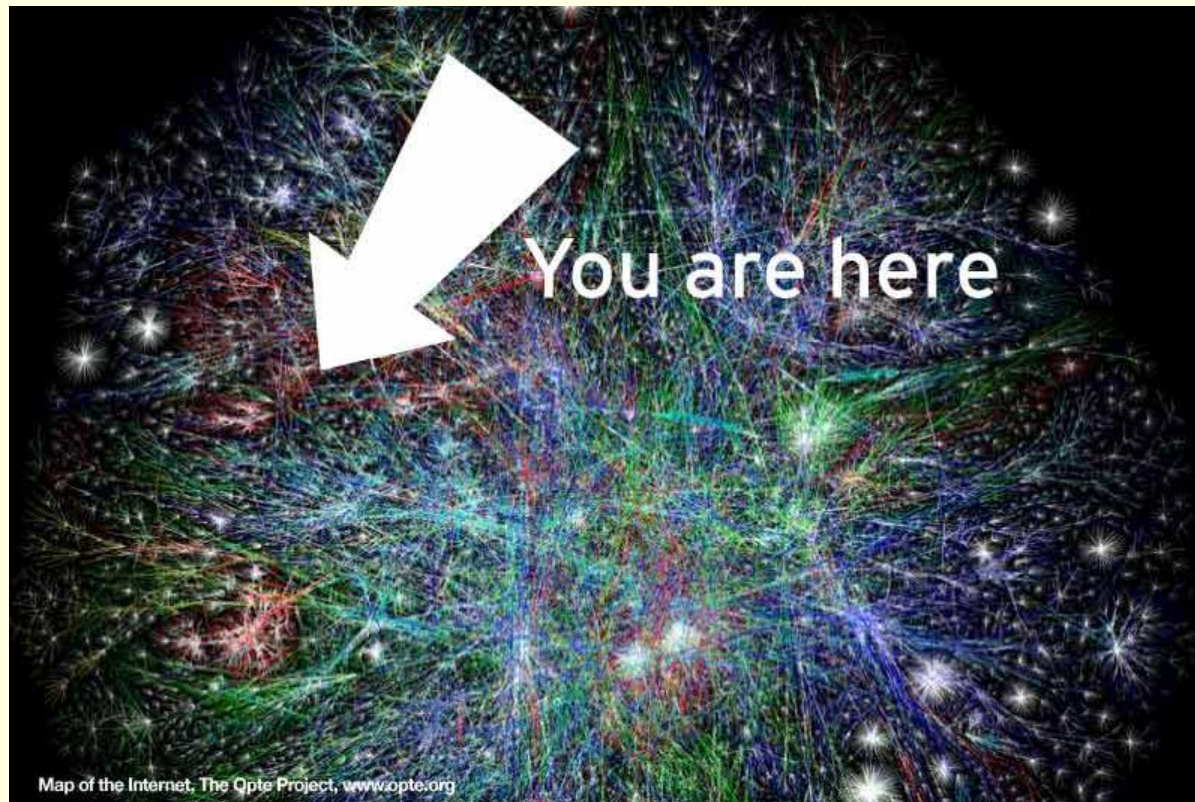


2.0



3.0

Globalizacija 3.0 (nastavak)



Schematic Map of the Internet

Friedmanovih deset izravnjiva a

- Pad Berlinskog zida
- *Netscape* postaje dostupan javnosti
- Razvoj *workflow* softvera
- Predaja datoteka
- Spoljna saradnja (outsourcing)
- Ofšor poslovanje
- Lanac snabdevanja
- Insorsing
- Informisanje
- Steroidi

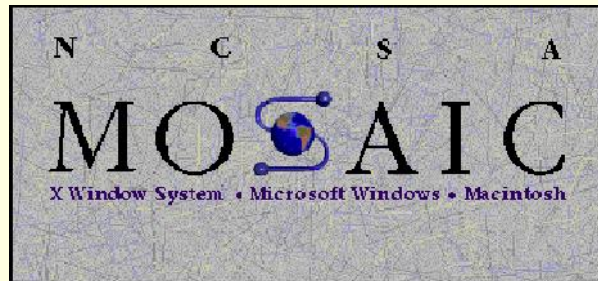
Pad Berlinskog zida



Širenje Evropske Unije (posledice pada Berlinskog zida)



Netscape postaje dostupan javnosti



Netscape®

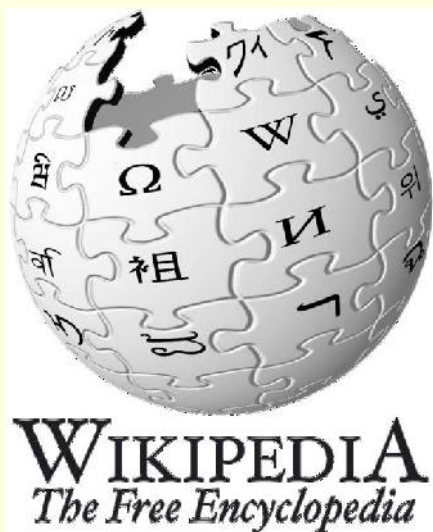
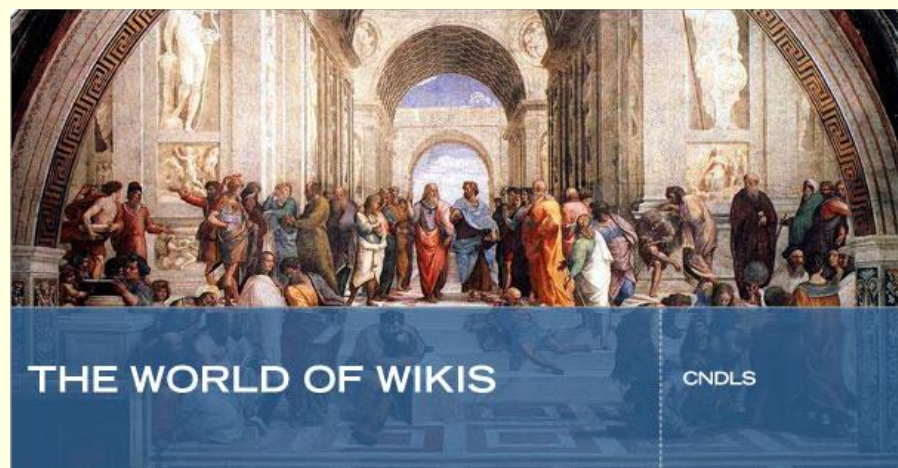


Marc Andreessen
(wrote Mosaic
browser and
Netscape browser)

Workflow softver

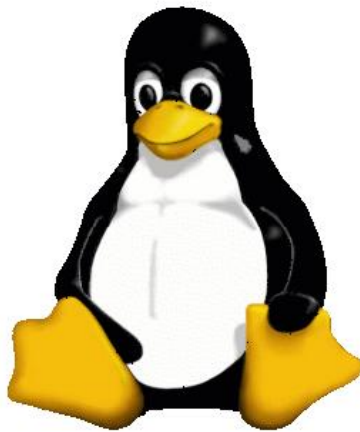


Predaja datoteka



The Open Source Movement

(essential ingredient of uploading)



Linux



Apache Web server



The Open Source Movement (continued)



Mozilla



Firefox



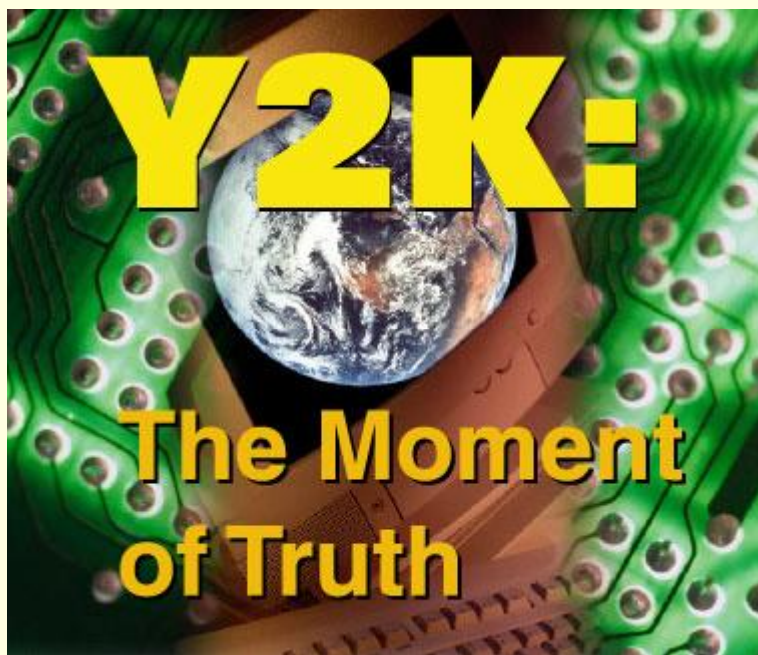
Thunderbird

The SeaMonkey Project



Formerly the Mozilla
Application Suite

Spoljna saradnja (outsourcing)



Outsourcing gained momentum and “took off” with Year 2000 (Y2K) problem

Ofšor poslovanje

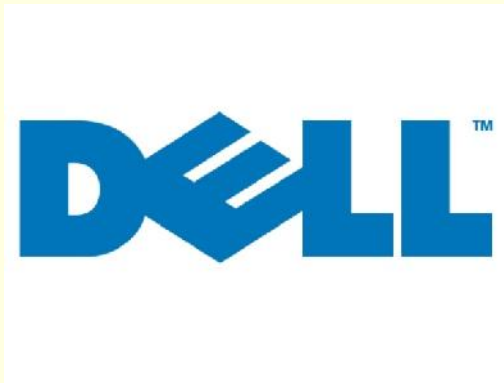


Call centar u Indiji

Lanac snabdevanja



Insorsing (insourcing)



Informisanje

To nije samo



There are MANY other interesting search engines as we see in Chapter 5

Steroidi

- Digitalni
- Mobilni
- Virtuelni
- Li ni

Prvi steroid: ra unarstvo (obrada)



Charles Babbage's
Difference Engine
(1822)

TO



Ultramobilni PC

Ra unarstvo (nastavak – uvanje)



TO



First disk storage unit by IBM (1956)
Capacity: 5 megabytes
Size: Refrigerator

Sony Micro Vault Thumb Drive
Capacity: 2 gigabytes

Drugi steroid: Trenutno slanje poruka i deljenje datoteka



Trenutno slanje poruka (primer)



Deljenje datoteka (primer)

Tre i steroid:

Voice over Internet Protocol



etvrti steroid: Video-konferencija



A telepresence system in a conference room

Videokonferencijske veze (nastavak)



An individual telepresence system

Videokonferencijske veze i medicina

New Zealand used Polycom, a leading vendor of telepresence systems, to provide a telemedicine application for children.



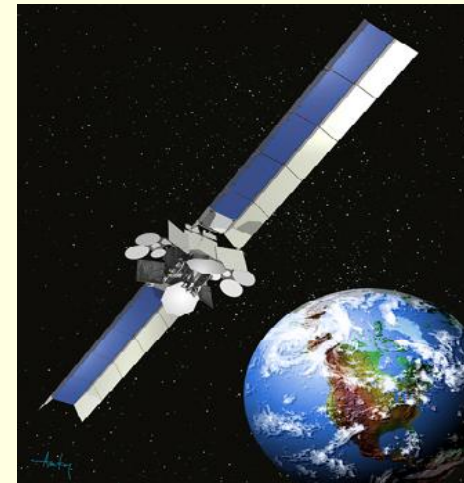
Peti steroid: Ra unarska grafika



Šesti steroid: Beži ne tehnologije



Using cell phone
in motion



Geostationary satellite



Bluetooth phone
sunglasses

The Great Convergence

We are in a convergence of three powerful, technological forces:

- (1) Cheap and ubiquitous computing devices
- (2) Low-cost, high bandwidth
- (3) Open standards

The Great Convergence (continued)

In essence, we have computing everywhere and anywhere, anytime and all the time, with access to limitless amounts of information, services, and entertainment.

The Great Convergence (continued)

We have the creation of a global, Web-enabled playing field that allows for multiple forms of collaboration – the sharing of knowledge and work – in real time, without regard to geography, distance, or, in the near future, even language.

The field now includes some **3 billion new people**, formerly digitally disenfranchised.

And the result of all this?

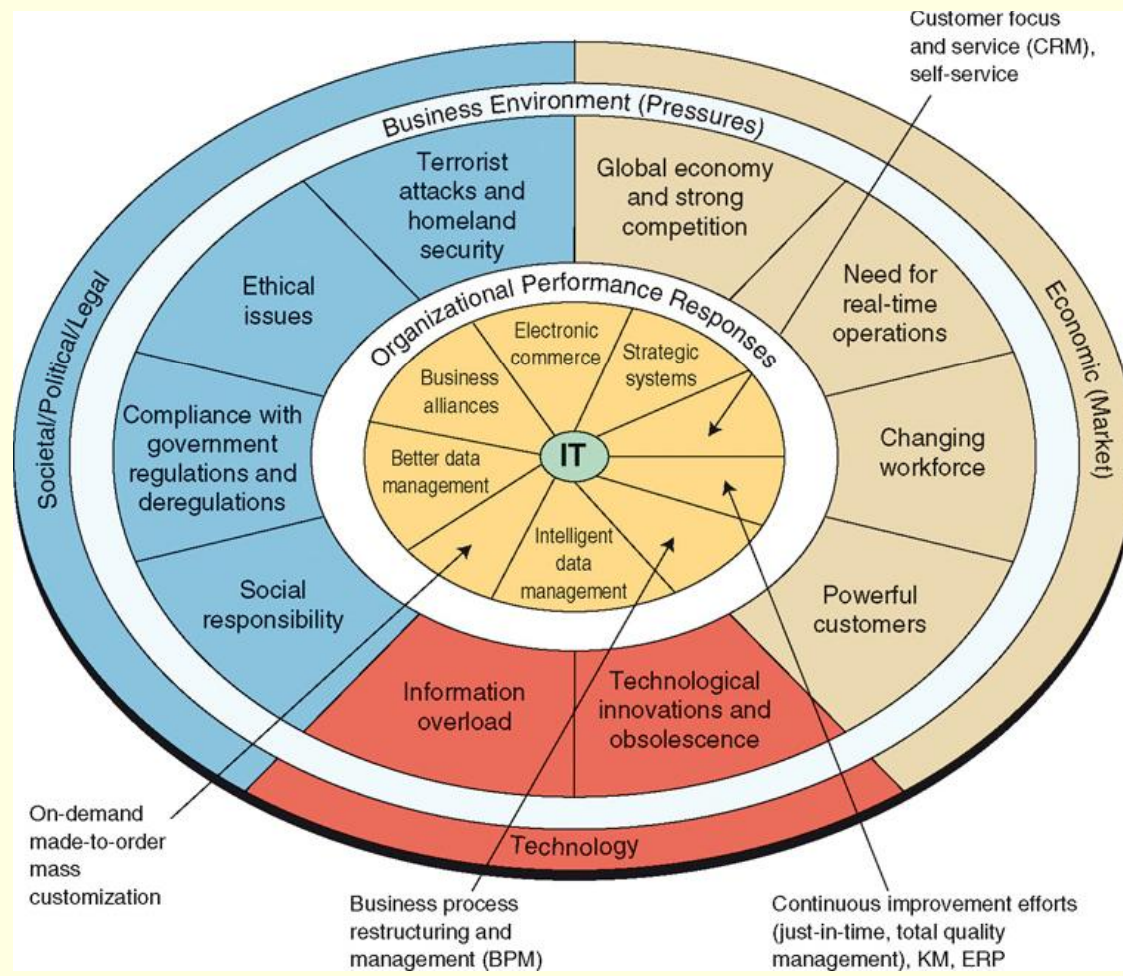
See the **Power of Technology**

1.3 Pritisci koji se javljaju u poslovanju, organizaciona rešenja i podrška IT

Pritisci u poslovanju

- Tržišni pritisci
- Tehnološki pritisci
- Društveni pritisci

Pritisci koji se javljaju u poslovanju, organizaciona rešenja i podrška IT



Tržišni pritisci

Globalna ekonomija i jaka konkurencija



Promenljiva priroda radne snage

Mo ni kupci



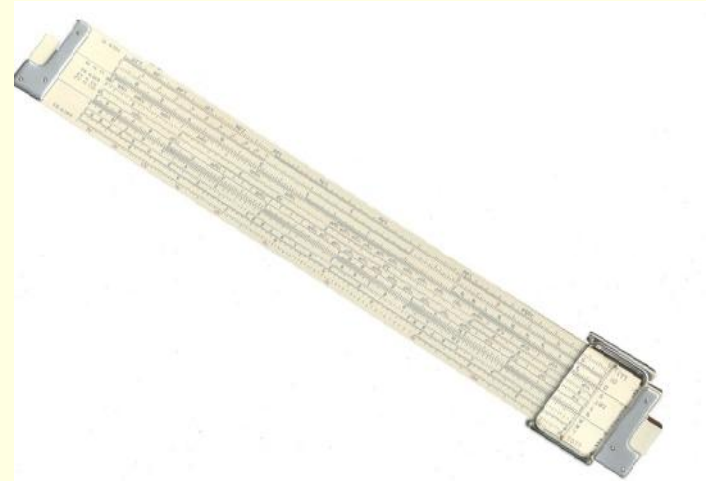
Tehnološki pritisci

- Tehnološke inovacije i zastarelost
- Pretrpanost informacijama

Tehnološke inovacije i zastarelost

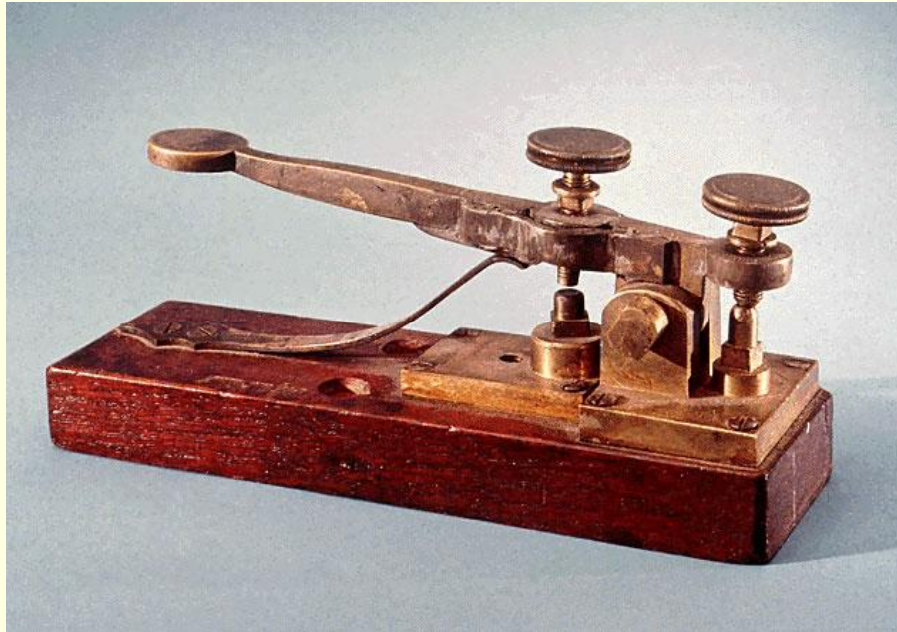


Inovacija: Early calculator

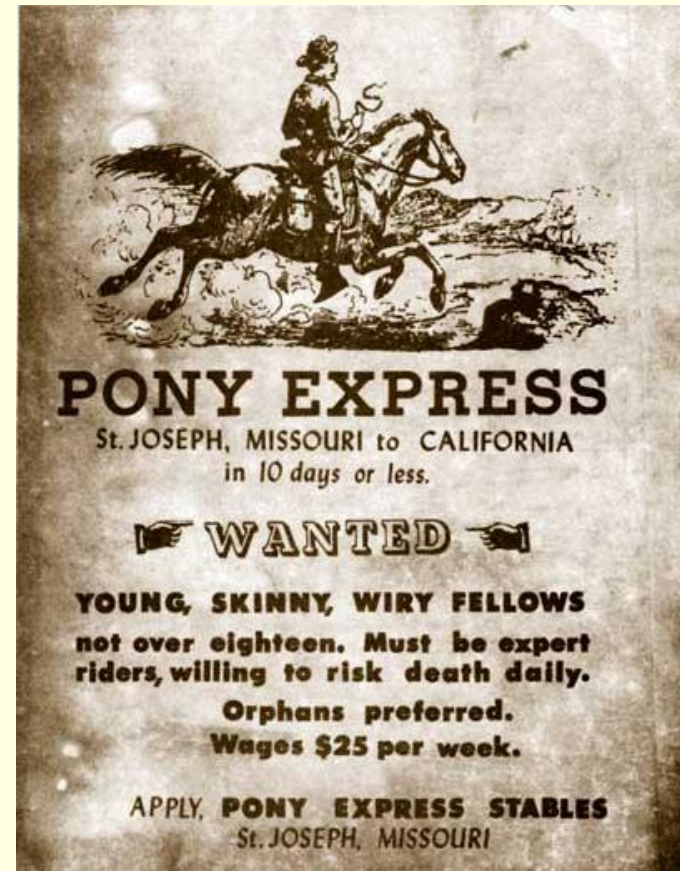


Obsolescence: Slide Rule

Tehnološke inovacije i zastarelost (nastavak)



Inovacija: Telegraf



Obsolescence: Pony Express

Tehnološke inovacije i zastarelost (nastavak)



Inovacija: iPod nano



Obsolescence: old phonograph

Tehnološke inovacije i zastarelost (nastavak)



Inovacija:
digitalna
kamera



Inovacija: "Credit
card" digital camera



Obsolescence: old
analog camera

Tehnološke inovacije i zastarelost

(nastavak)



Inovacija: Ford Model T

Obsolescence:
Horse and Buggy



Tehnološke inovacije i zastarelost

(nastavak)



Inovacija: Notebook computer with word processing software

Obsolescence: Manual typewriter



Pretrpanost informacijama

Suffering from Information Overload?

e-mail	e-journals	CD-ROMs
world wide web	magazines	Socrates
e-books	journals	reference books
newspapers	books	encyclopedias

Društveni pritisci

- Društvena odgovornost
- Državne regulative i smanjenje regulativa
- Zaštita od terorističkih napada
- Etička pitanja

Društvena odgovornost



One Laptop per
Child initiative

Društvena odgovornost (nastavak)



Internet over satellite in developing nations

Društvena odgovornost (nastavak)

Bridging the
Digital Divide



Društvena odgovornost (nastavak)

Youth Computer
Club in Cuba



Društvena odgovornost (nastavak)

Cuban Youth
Computer Club
mobile unit



Organizaciona rešenja

- Strategijski sistemi
- Usredsre enost na kupce
- Proizvodnja po porudžbini i masovno prilago avanje kupcima
 - vidi [Reebok](#)
 - vidi Bodymetrics [video](#)
- Elektronsko poslovanje i elektronska trgovina

1.4 Zašto su važni informacijski sistemi?

- Informacijski sistemi i informacijske tehnologije su **sastavni deo života**
- Informacijski sistemi nude **mogu nosti za gra enje karijere**
- Informacijske sisteme **koristi svako funkcionalno podru je jedne organizacije**

Dezinformacija o mogućnosti za karijeru u oblasti informacionih sistema

- **Prva zabluda:** Nema posla u oblasti raunarstva.
- **Druga zabluda:** Dok moja generacija diplomira, ne će postojati poslovi IT.
- **Treća zabluda:** Svi poslovi IT sele se u druge zemlje.
- **četvrta zabluda:** Plate u oblasti informacionih tehnologija su niske zbog jeftine radne snage u inostranstvu.

1.5 Plan ove knjige

- Glavni cilj ove knjige je da omogu i razumevanje uloge informacionih tehnologija u savremenim organizacijama.
- Knjiga je napisana tako da omogu i da se o informacionim sistemima misli na strategijski na in.
- Knjiga pokazuje kako IT pruža podršku svim funkcionalnim segmentima organizacije.
- Each chapter introduces a major topic in Information Technology

Završni slučaj

amazon.com

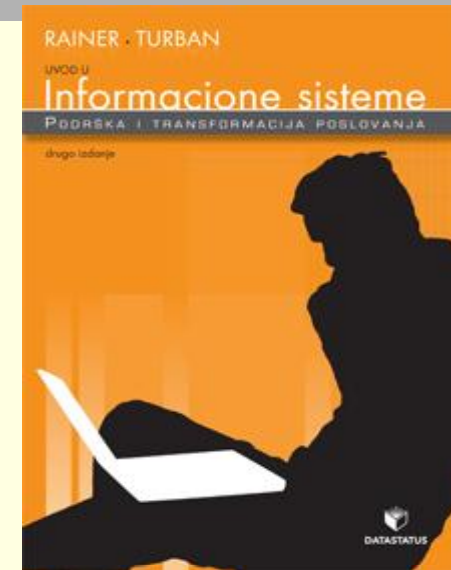


Amazon S3

Simple Storage Service

amazon mechanical turk
beta Artificial Intelligence

POSLOVNI INFORMACIONI SISTEMI



prof. dr Zlatko Langovi

POGLAVLJE 2

Informacioni sistemi: pojmovi i upravljanje

Pregled sadržaja poglavlja

2.1 Tipovi informacionih sistema

2.2 Konkurentska prednost i strategijski informacioni sistemi

2.3 Zašto su važni informacioni sistemi za organizaciju i društvo?

2.4 Upravljanje informacionim resursima

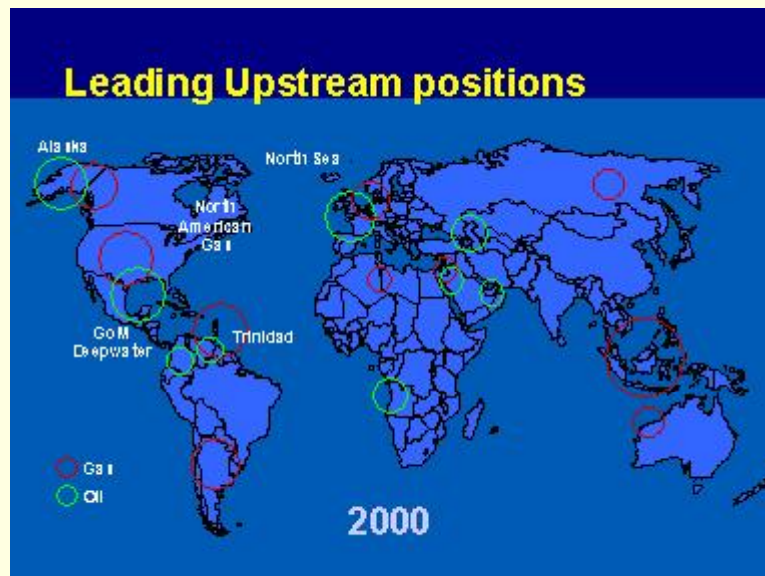
CILJEVI U ENJA

- Definisati sastavne delove kompjuterizovanih informacionih sistema.
- Definisati razne tipove informacionih sistema na osnovu podrške.
- Utvrditi koji su glavni informacioni sistemi koji podržavaju svaki od nivoa organizacije.
- Definisati strategijske informacione sisteme (SIS) i opisati njihove prednosti.

CILJEVI U ENJA (nastavak)

- Definisati Porterove modele sile konkurencije i lanca vrednosti i objasniti na koji na in IT pomaže kompanijama da poboljšaju svoju konkurentnost.
- Definisati pet strategija koje kompanije koriste da steknu konkurentsku prednost u svojim granama delatnosti.
- Definisati na ine upravljanja informacionim resursima i razmotriti uloge koje imaju odeljenje za informacione sisteme i krajnji korisnici.

Uvodni slujaj



Upstream activities: exploration and production



Downstream activities: refining, marketing, transportation, sales

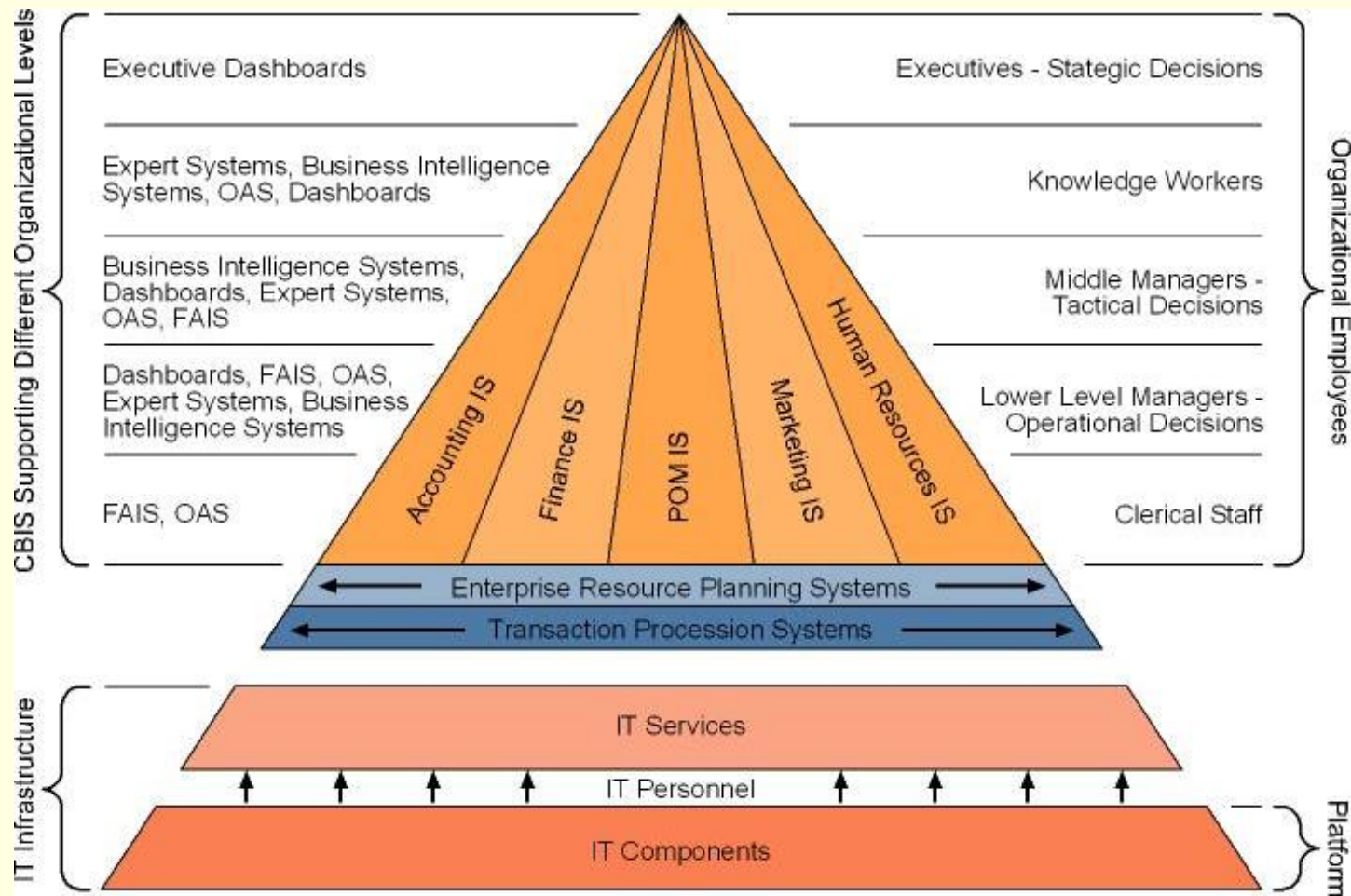


2.1 Tipovi informacionih sistema

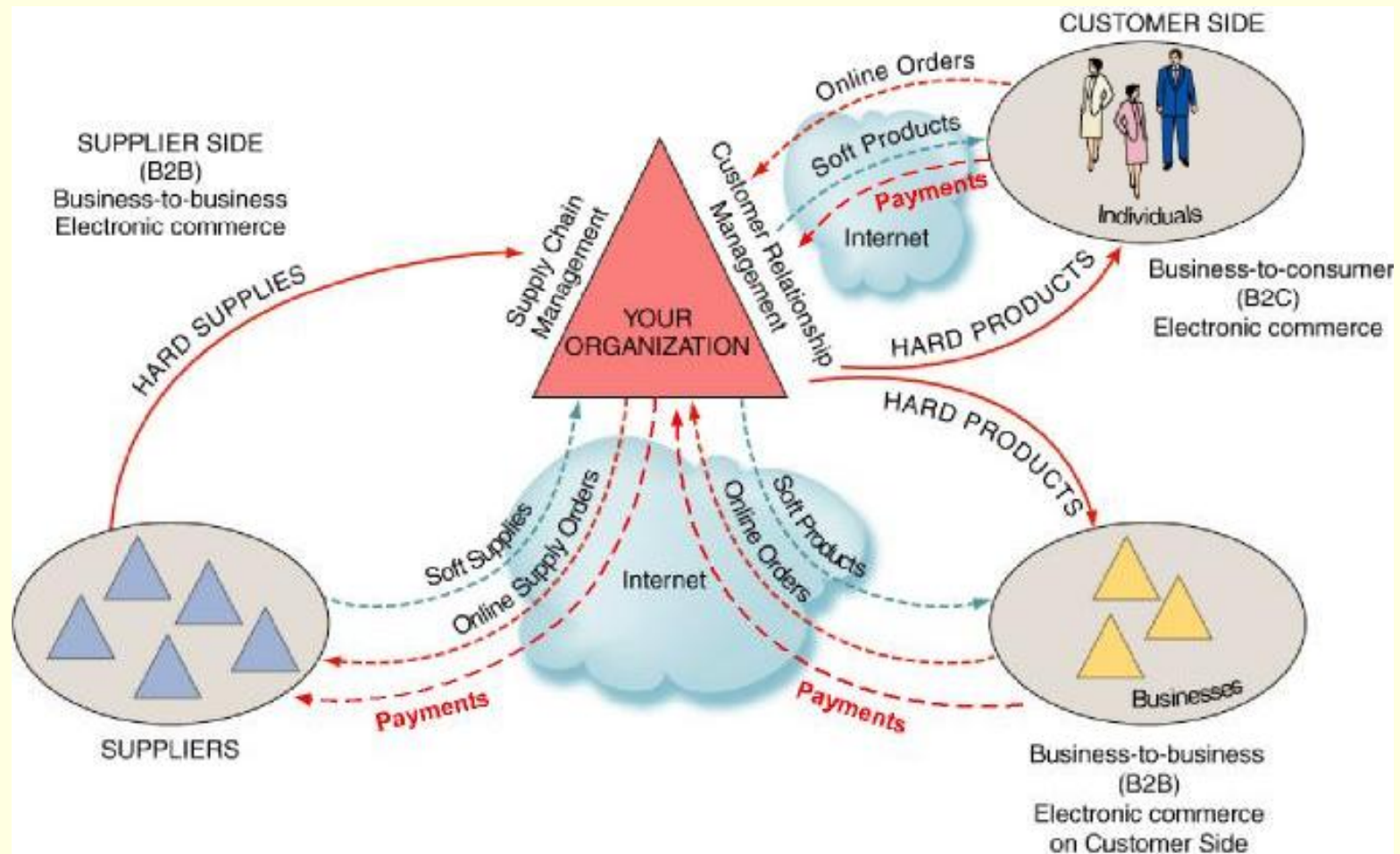
Kompjuterizovani informacioni sistemi koriste računarsku tehnologiju da bi obavljali deo zadataka ili zadatke u celini i sastoje se od:

- Hardvera
- Softvera
- Baze podataka
- Mreže
- Procedura
- Ljudstva

Informacione tehnologije unutar organizacije



Informacione tehnologije izvan organizacije



Aplikativni programi

Aplikativni program je računarski program koji rešava konkretan zadatak, podržava poslovni proces ili neki drugi aplikativni program.

Dubina podrške koju informacijski sistem može da obezbedi organizaciji

- Informacioni sistemi funkcionalnih celina
- Sistem za planiranje resursa preduzeća
- Sistem za obradu transakcija
- Interorganizacioni informacioni sistemi

Podrška zaposlenima u organizaciji

- Sistemi za automatizaciju kancelarijskog poslovanja
- Informacioni sistemi funkcionalnih celina
- Sistemi poslovne inteligencije
- Ekspertni sistemi
- Digitalne kontrolne table

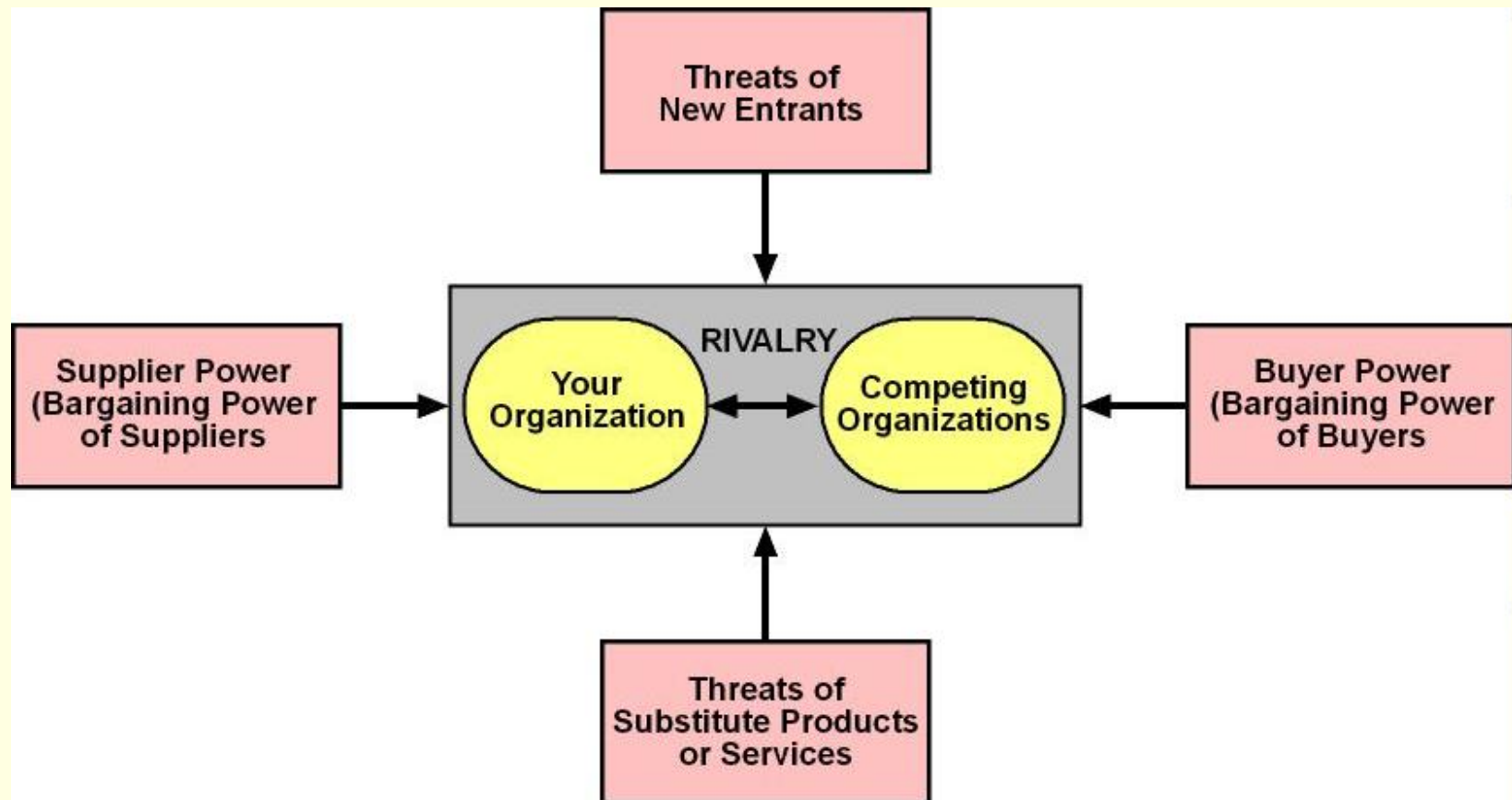
2.2 Konkurentska prednost i strategijski informacijski sistemi

- Konkurentska prednost
- Strategijski informacijski sistemi (SIS)

Porterov model sila konkurencije

Najpoznatiji okvir za analizu konkurentnosti je model sila konkurencije Michaela Portera (Porter, 1985).

Porterov model sila konkurencije



Porterov model sila konkurencije

- **Opasnost od pojavljanja novih konkurenata** je visoka kada je tržište otvoreno, a smanjuje se ako postoje barijere za ulazak na tržište.
- **Barijera za ulazak na tržište** je karakteristika proizvoda ili nivo kvaliteta usluge koji se odlikuje u određenoj oblasti privrede.
- Za većinu organizacija, veća *povećava* opasnost od pojave novih konkurenata na tržištu.

Porterov model sila konkurencije

- **Pregovara ka mo dobavlja a** je *velika* kada kupci nemaju mnogo izbora, a *mala* je kada kupci imaju mnogo izbora.
- Internet uti e na dobavlja e na razli ite na ine. Kupci mogu da na u alternativne dobavlja e i da lakše upore uju cene i da smanje mo dobavlja a.
- S druge strane, kako kompanije koriste internet za integraciju svojih lanaca snabdevanja, dobavlja i mogu da obavežu svoje kupce.

Porterov model sila konkurencije

- **Pregovara ka mo kupaca** je velika kada kupci imaju mnogo izbora, mala je kada nemaju mnogo izbora.
- Internet uve a va pristup informacijama, pove avaju i mo kupaca.
- Internet smanjuje **troškove promene**, which are the costs, in money and time, to buy elsewhere. This also increases buyer power.

Porterov model sila konkurencije

- **Opasnost od pojave zamene za proizvode i usluge** je visoka ukoliko postoji mnogo supstituta za proizvode i usluge neke organizacije i niska je ako ne postoji mnogo supstituta.
- Privrednim granama koje su zasnovane na informacijama najviše pretil opasnost od supstituta (na primer, muzika, knjige, softver). Putem interneta informacije mogu da se prenose brzo i efikasno.

Porterov model sila konkurencije

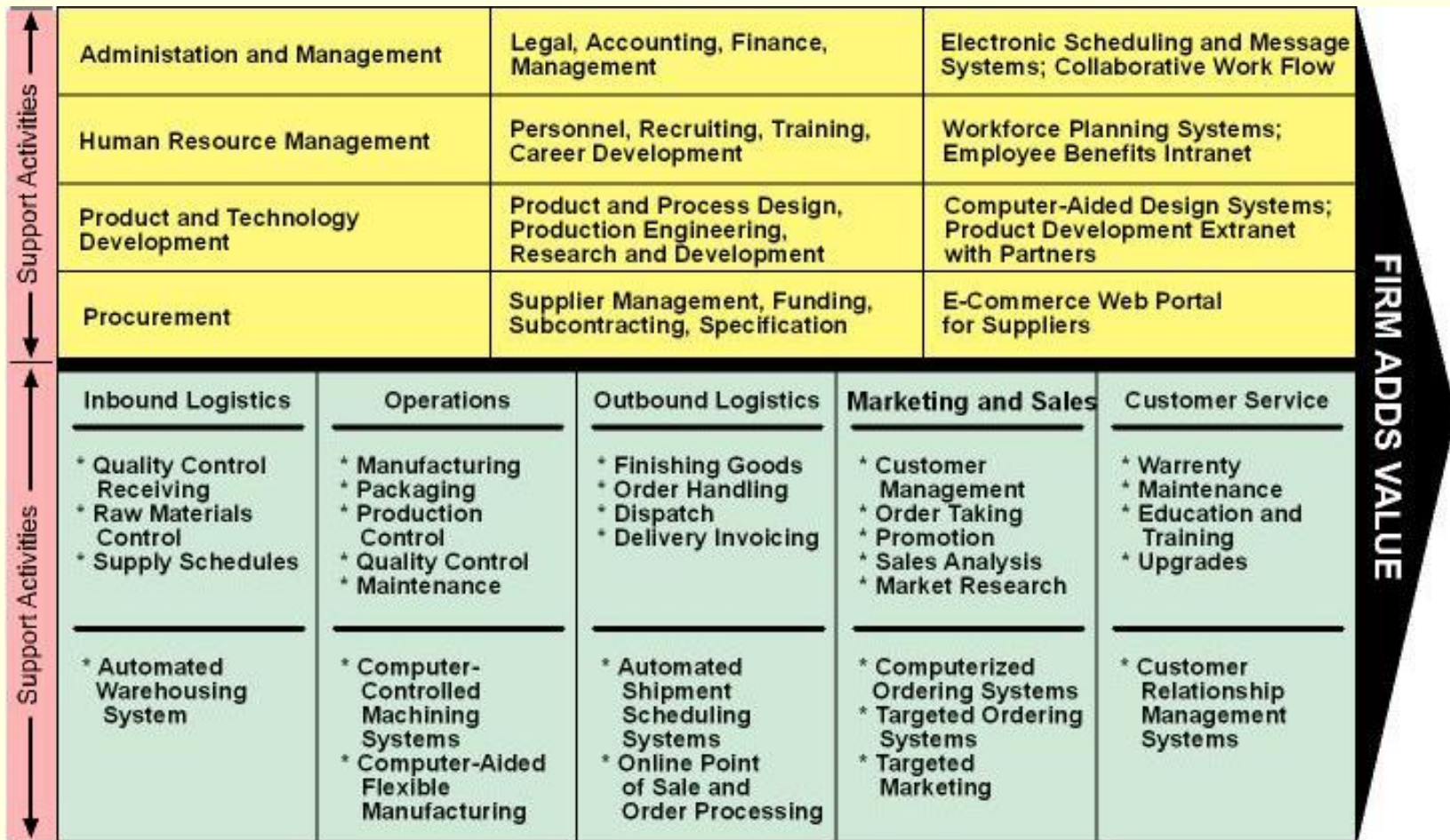
- **Rivalstvo izme u firmi u jednoj privrednoj grani** is *high* when there is fierce competition and *low* when there is not.

Porterov model lanca vrednosti

Ovaj model koriste organizacije da bi ustanovile koje su specifične aktivnosti u kojima mogu koristiti konkurentne strategije za postizanje najvećeg uinka.

- Primarne aktivnosti
- Pomoćne aktivnosti

Porterov model lanca vrednosti



Strategije za sticanje konkurentske prednosti

- Najniži troškovi



- Diferencijacija



- Inovacija



- Efikasnost poslovanja



- Orijentisanost ka kupcima



2.3 Zašto su važni informacijski sistemi?

- Informacijske tehnologije će smanjiti broj menadžera srednjeg nivoa.
- Informacijske tehnologije će promeniti menadžerski posao.
- Informacijske tehnologije utiču na zaposlene dok su na radnom mestu.
- Informacijske tehnologije poboljšavaju kvalitet života.

Ergonomski proizvodi



(a)



(b)



(c)



(d)

When ergonomics doesn't work

When all else fails.....

Omogućavanje ljudima sa invaliditetom da rade na računaru



(a)



(b)

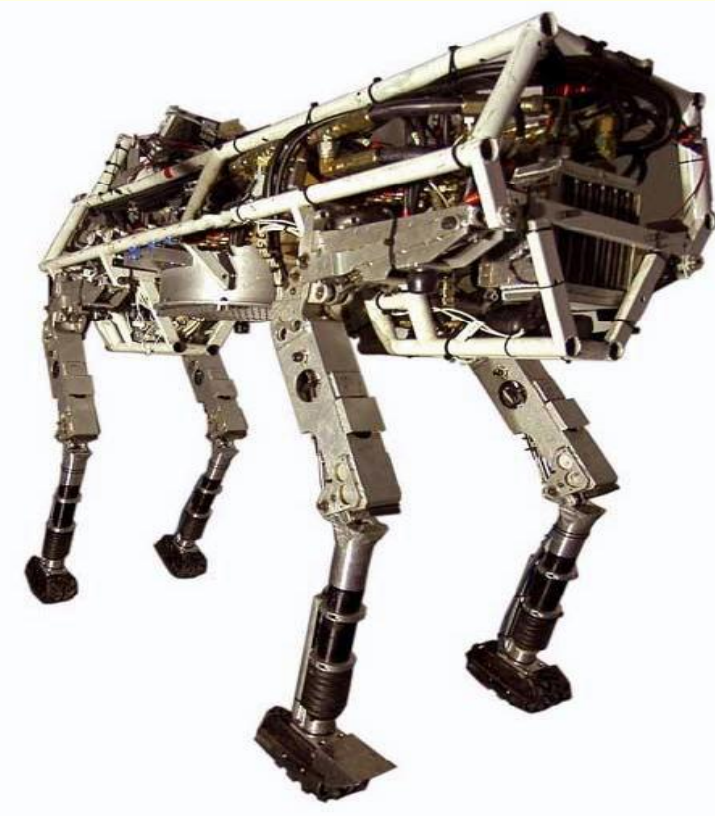


(c)

Roboti dižu revoluciju

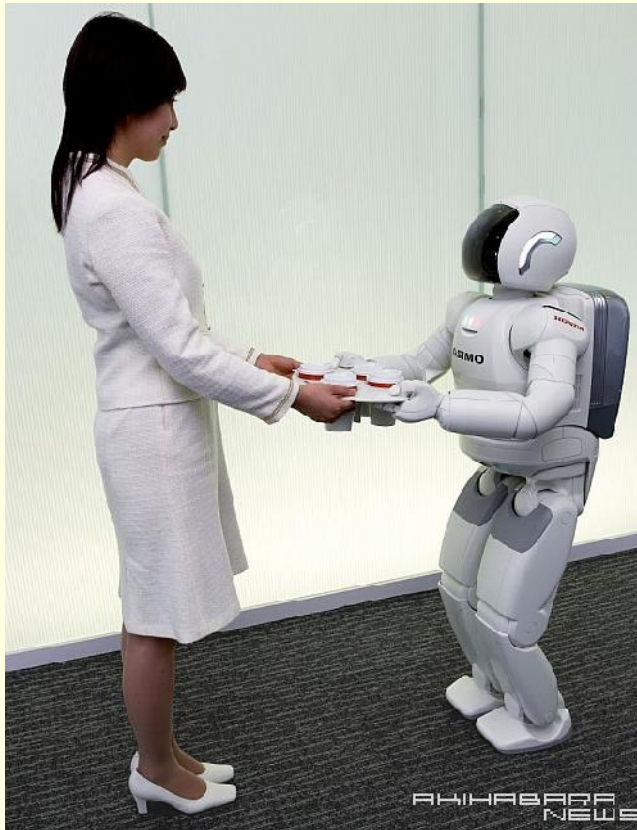
See [Invasion of the Humanoid Robots](#)

Roboti dižu revoluciju



See [video](#) of
Big Dog robot
in action

Roboti dižu revoluciju (nastavak)



See ASIMO [commercial](#)

See [video](#) of ASIMO in action



Honda's ASIMO robot

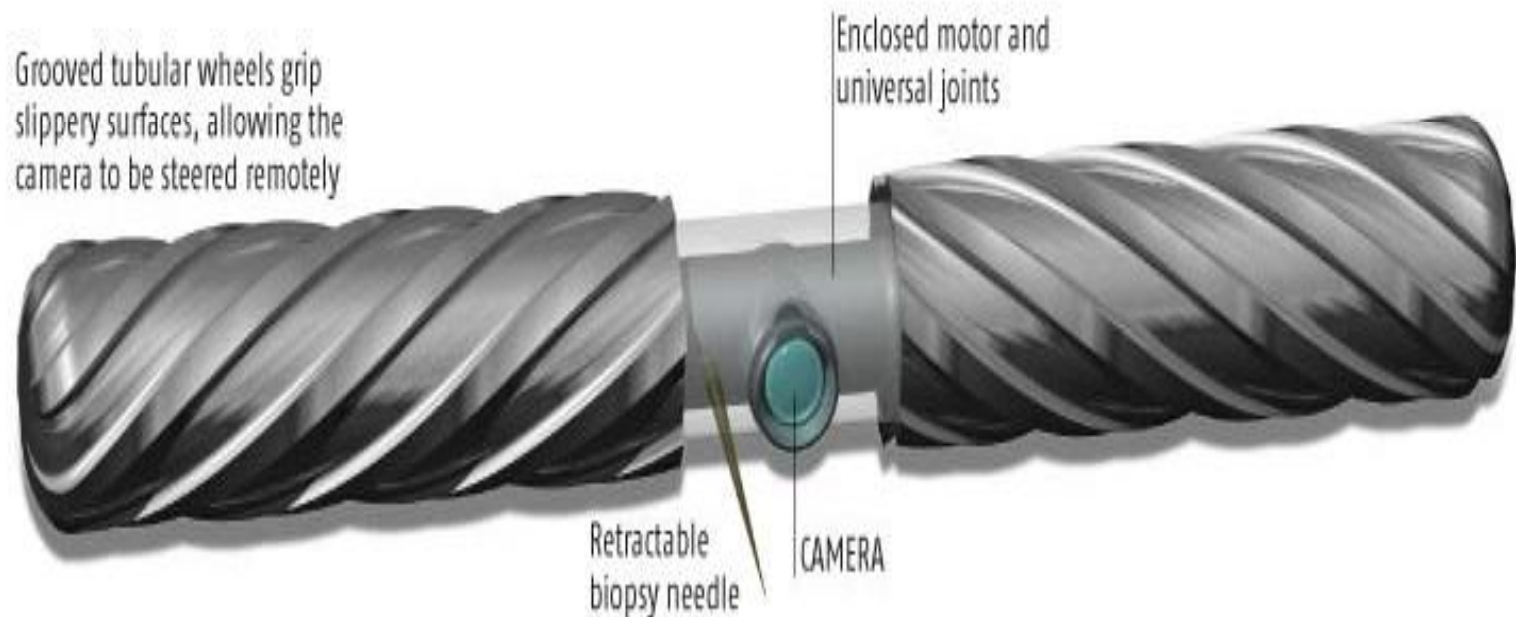
DeLaval Voluntary Milking System



Poboljšanje zdravstvene zašтите

ROVING ROBOT CAMERA

The radio-controlled robot can roam the stomach or abdomen, acting as an extra eye for surgeons (schematic only, not to scale)



Poboljšanje zdravstvene zašтите

(nastavak)



The Pill Cam: Wireless endoscopy

The daVinci Surgical Robot



The robot



The surgeon's console

The daVinci Surgical Robot (continued)



The daVinci robot in use

Medical Simulation



Two physicians perform a procedure on a simulated human (mannequin)

Upravljanje informacionim resursima

- Kojim resursima IT se upravlja i ko to radi?
- Uloga odeljenja za IS

Tradicionalne primarne funkcije IS

- Razvoj upravljačkih sistema i upravljanje sistemskim projektima
- Upravljanje računarskim centrima
- Zapošljavanje osoblja, obučavanje i razvoj veštine IS
- Pružanje tehničkih usluga
- Planiranje, razvoj i kontrola infrastrukture

Nove (konsultantske) primarne funkcije IS

- Započinjanje i projektovanje specifičnih strategijskih informacionih sistema
- Integrisanje interneta i elektronske trgovine u poslovanje
- Upravljanje integracijom sistema, uključujući i internet, intranet i ekstranet
- Edukacija zaposlenih u drugim odeljenjima u oblasti IT
- Poslovna edukacija zaposlenih u IS
- Podrška krajnjim korisnicima računara
- Partnerstvo sa izvršnim direktorima
- Upravljanje spoljnom saradnjom (outsourcing)
- Inovacija
- Alijanse sa dobavljačima i odeljenjima za IS drugih organizacija

Supporting End Users

One form of end-user support is the **help desk**, where IS staffers help users troubleshoot problems with their systems.

This video shows the [first help desk](#).

Završni slučaj

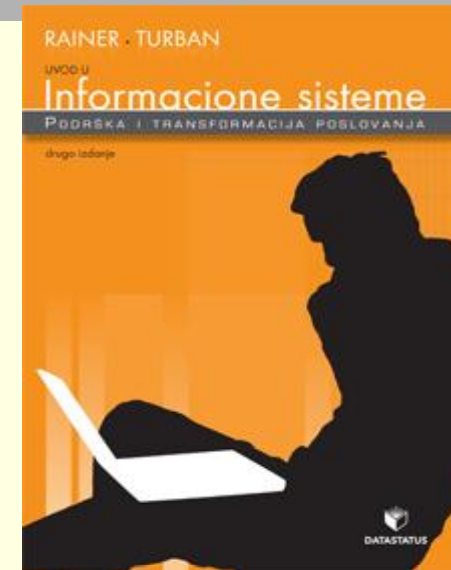


Kompanija
Todd Pacific
Shipyards

PDA beži na
mreža



POSLOVNI INFORMACIONI SISTEMI



prof. dr Zlatko Langovi

POGLAVLJE 3

Etika, privatnost i zaštita informacija

Pregled sadržaja poglavlja

3.1 Eti ka pitanja

3.2 Pretnje zaštiti informacija

3.3 Zaštita informacionih resursa

Ciljevi u enja

- Definisati glavna etička pitanja vezana za informacionu tehnologiju i utvrditi u kojim se situacijama javljaju.
- Definisati koje su glavne pretnje zaštiti informacija.
- Opisati različite mehanizme odbrane koji se koriste za zaštitu informacionih sistema.
- Objasniti reviziju informacione tehnologije i planiranje oporavka od katastrofe.

TJX: Najgora kraja podataka u maloprodaji u istoriji?



Etika pitanja

- Etika
- Etika kodeks

Fundamentalna načela etike

- Jasno definisana lična odgovornost za postupke koji su u injenici u organizaciji
- Odgovornost za sopstvene postupke
- Pravo na obeštećenje

Neeti ki naspram nezakonitog

Ono što je *neeti ki* ne mora istovremeno biti i *nezakonito*.

Ethics scenarios

etiri kategorije etičkih pitanja:

- Pitanje privatnosti
- Pitanje tačnosti
- Pitanje svojine
- Pitanje dostupnosti

Pitanje privatnosti

BIG BROTHER



**IS WATCHING
YOU**

How much privacy
do we have left?

Privatnost

- Privatnost. Pravo pojedinca da ne bude uznemiravan i da bude oslobođen od bilo kojeg i bilo kakvog uplitanja u lične stvari.
- Sudska praksa primenjuje dva pravila:
 - (1) Pravo na privatnost nije apsolutno pravo. Vaša privatnost mora biti usklađena sa potrebama društva.
 - (2) Pravo javnosti je pretežno od prava pojedinca na privatnost.

Pretnje privatnosti

- Agregatori podataka, digitalni dosije i profilisanje.
- Elektronski nadzor
- Li ne informacije u bazama podataka
- Informacije na internetskim grupama kao što su elektronske oglasne table, diskusione grupe i sajtovi socijalnog umrežavanja.

Agregatori podataka, digitalni dosije i profilisanje



Elektronski nadzor



Elektronski nadzor

- Vidi "[The State of Surveillance](#)" lanak u asopisu *BusinessWeek*.
- Vidi the [surveillance slideshow](#)
- See additional surveillance [slides](#)
- And you think you have privacy? ([video](#))
- [Sense-through-the-Wall](#)

Li ne informacije u bazama podataka

- Banke
- Pružaoci komunalnih usluga
- Vladine agencije
- Kreditni biro



Informacije na internetskim grupama kao što su elektronske oglasne table, diskusione grupe i sajtovi socijalnog umrežavanja



Sajtovi socijalnog umrežavanja Can Cause You Problems

Anyone can post derogatory information about you *anonymously*.

(See this Washington Post [article](#).)



You can also hurt yourself, as this [article](#) shows.

What Can You Do?

First, be careful what information you post on social networking sites.

Second, a company, ReputationDefender, says it can remove derogatory information from the Web.



Zaštita privatnosti

- Kodeks privatnosti i poslovna politika privatnosti
 - Model ograničavanja (Opt-out Model)
 - Model pristanka (Opt-in Model)

3.2 Pretnje zaštiti informacija

Factors Increasing the Threats to Information Security

- Savremeno, me usobno povezano, me uzavisno, beži no umreženo poslovno okruženje,
- Državno zakonodavstvo,
- Manji, brži i jeftiniji računari i uređaji za uvanje podataka,
- Sve manje veština koje su potrebne da bi pojedinac postao kompjuterski haker,

Factors Increasing the Threats to Information Security (continued)

- Me unarodni organizovani kriminal preuzima visokotehnološki kriminal,
- Implicitna odgovornost,
- Povećan broj uređaja koje zaposleni koriste bez ikakve kontrole,
- Nedostatak podrške menadžmenta.

A Look at Unmanaged Devices



Wi-Fi at McDonalds



Hotel Business Center

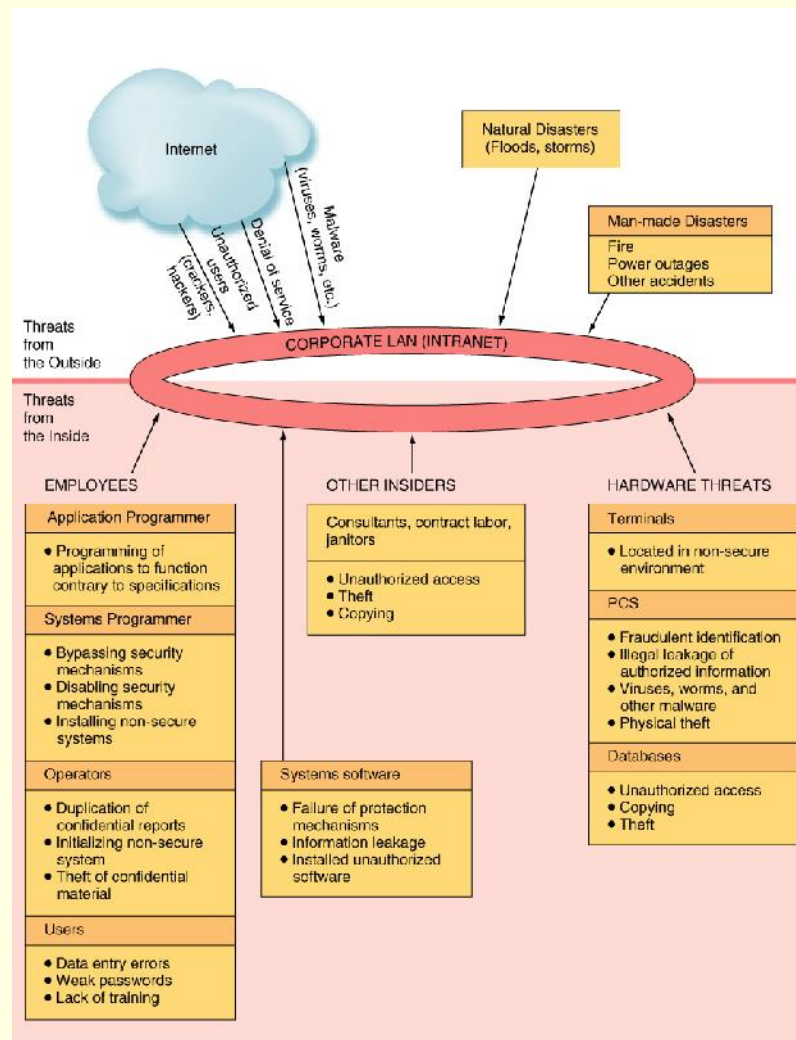


Wi-Fi at Starbucks

Key Information Security Terms

- Pretnja informacionom resursu
- Izloženost
- Ranjivost sistema
- Rizik
- Kontrola informacionih sistema

Pretnje bezbednosti (slika 3.1)



Categories of Threats to Information Systems

- Nehoti ni postopci
- Elementarne nepogode
- Tehni ki kvarovi
- Greške menadžmenta
- Namerni postopci

(from Whitman and Mattord, 2003)

Example of a threat ([video](#))

Nehoti ni postupci

- Ljudske greške
- Promene u kvalitetu usluga (npr., utilities)
- Štetna dejstva okoline (npr., prljavština, prašina, vlaga)

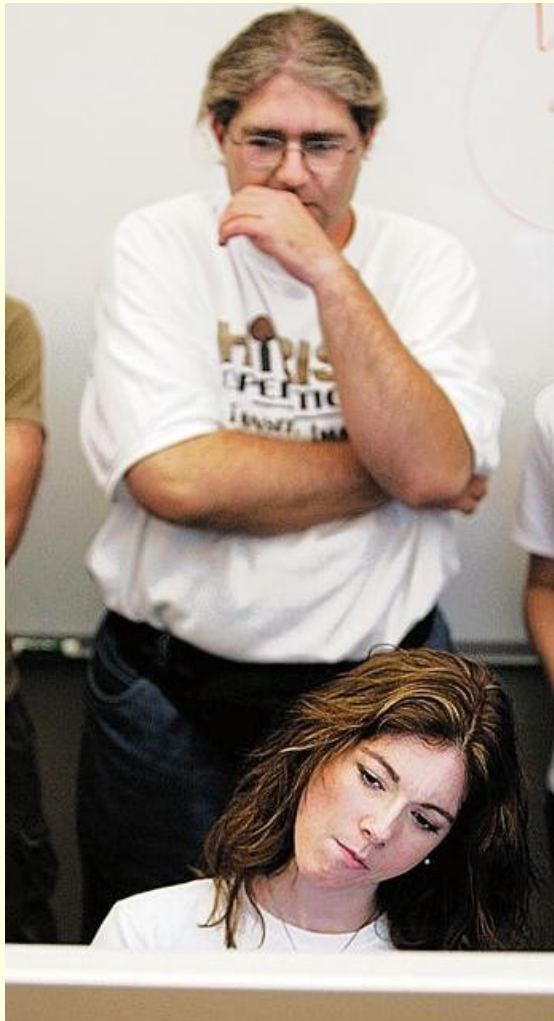
Ljudske greške

- „Prilepljivanje“
- Gledanje preko ramena
- Nemaran odnos prema laptopu i prema prenosivim uređajima
- Otvaranje sumnjive e-pošte
- Nemarno pretraživanje interneta
- Loš izbor lozinke i neoprezno korišćenje lozinke
- And more

Anti-Tailgating Door



Gledanje preko ramena



Most Dangerous Employees

Human resources and MIS



Remember, these employees hold ALL the information

Socijalni inženjering

- [60 Minutes Interview](#) with Kevin Mitnick, the “King of Social Engineering”
- Kevin Mitnick served several years in a federal prison. Upon his release, he opened his own consulting firm, advising companies on how to deter people like him,
 - See his company [here](#)

Elementarne nepogode



Namerni postupci

- Špijunaža ili upadanje u posed
- Informaciono iznuđivanje
- Sabotaža ili vandalizam
- Krađa opreme ili informacija
 - Na primer, „kopanje po slobretu“



Namerni postupci (nastavak)

- Krađa identiteta video
- Ugrožavanje intelektualne svojine

Namerni postupci (nastavak)

- Softverski napadi

- Virus

- Crv

- 1988: first widespread worm, created by Robert T. Morris, Jr.

- (see the rapid spread of the Slammer worm)

- Trojanski konj

- Logi ka bomba

Namerni postupci (nastavak)

- Softverski napadi (nastavak)
 - „Fišing“ napad
 - „Fišing“ [slideshow](#)
 - „Fišing“ [quiz](#)
 - „Fišing“ [example](#)
 - „Fišing“ [example](#)
 - Distribuirani napad uskraivanjem servisa
 - See botnet [demonstration](#)

Namerni postupci (nastavak)

- Softverski napadi (nastavak)

Can you be Phished?



How to Detect a Phish E-mail

Is the email really from eBay, or PayPal, or a bank?

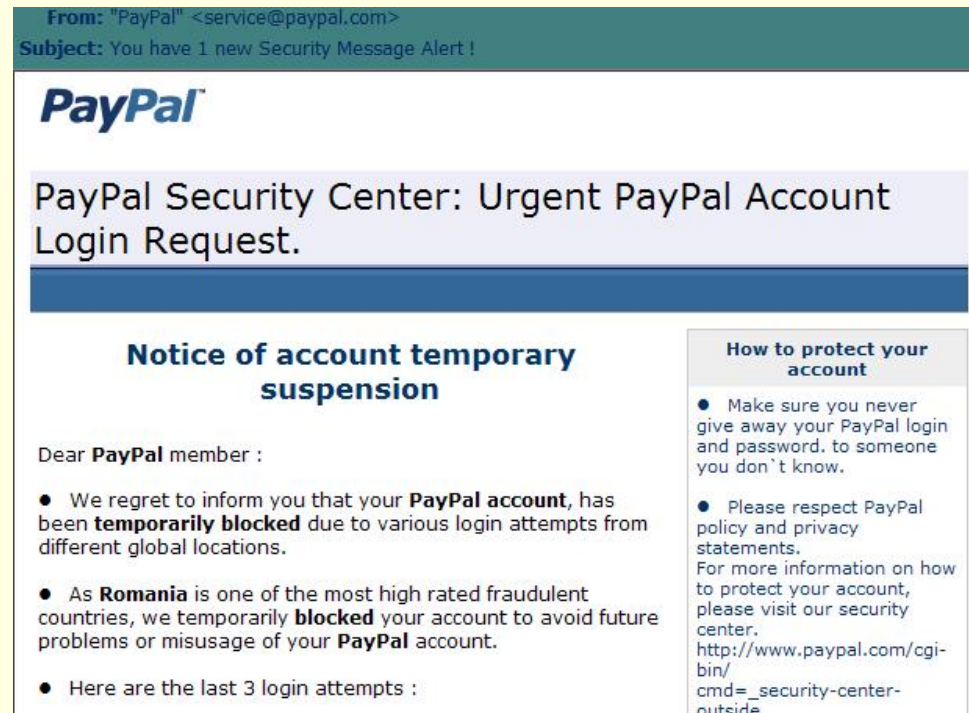
As Spammers get better, their emails look more genuine. How do you tell if it's a scam and phishing for personal information? Here's how ...

Is the email really from eBay, or PayPal, or a bank?

As an example, here is what the email said:

- Return-path: <service@paypal.com>
- From: "PayPal" <service@paypal.com>
- Subject: You have 1 new Security Message Alert !

Note that they even give advice in the right column about security



The screenshot shows an email header with the following information:

- From: "PayPal" <service@paypal.com>
- Subject: You have 1 new Security Message Alert !

The main body of the email features the PayPal logo and a title: "PayPal Security Center: Urgent PayPal Account Login Request."

The content is divided into two columns:

- Left Column:** Titled "Notice of account temporary suspension". It addresses a "PayPal member" and states that their account has been temporarily blocked due to various login attempts from different global locations. It also mentions that Romania is a high-rated fraudulent country and provides information about the last 3 login attempts.
- Right Column:** Titled "How to protect your account". It contains two bullet points: one advising to never give away login and password information, and another advising to respect PayPal policy and privacy statements. It includes a URL for more information: http://www.paypal.com/cgi-bin/cmd=_security-center-outside.

Example Continued – bottom of the email

- Here are the last 3 login attempts :

1. IP address : 194.102.104.2
ISP host : st13.i-cafe.onix.ro
Location : Niger

2. IP address : 217.156.19.129
ISP host : rds-net.vl.ro
Location : Niger

3. IP address : 62.177.188.59
ISP host : adsl.bbeyond.ro
Location : Niger

- **If you are traveling and made these login attempts yourself or borrowed your PayPal account to someone else , please log in below.**

[Travelling confirmation Here](#)

- **If you want to re-activate your PayPal account , please follow our instructions.**

[Re-activate your account Here](#)

```
only  
cmd=_security-center-  
outside
```

Increase your security

- **Become** a Verified PayPal member. Examine all privacy and security seals before doing business with a particular website and make sure they are legitimate. PayPal is a licensee of the [TRUSTe Privacy Program](#).

Protect your password

- **Never** give away your password and always choose a combination of letters, numbers, and symbols.

For example, \$c00!place2!ve or 2Barry5Bonds#1. Avoid choosing obvious words or dates such as a nickname or your birth date.

- Don't use the same password for PayPal and other online services such as AOL, MSN,

How to see what is happening

View Source

- In **Outlook**, right click on email, click 'view source'
- In **GroupWise**, open email and click on the Message Source tab
- In **Mozilla Thunderbird**, click on View, and Source.
- Below is the part of the text that makes the email look official – the images came from the PayPal website.

```
<table width=3D"100%" cellspacing=3D"0" cellpadding=3D"0" border=3D"0">
<tr>
      <td background=3D"http://images.paypal.com/images/bg_clk.gif"
width=3D100%><img src=3D"http://images.paypal.com/images/pixel.gif"=20
height=3D"29"
width=3D"1" border=3D"0"></td>
</tr>=09
=09
<tr>
      <td><img src=3D"http://images.paypal.com/images/pixel.gif"=20
height=3D"10"
width=3D"1" border=3D"0"></td>
</tr>
</table>
```

View Source – The Real Link

```
class="pp_sansserif" align="center"><a href="ftp://futangiu:futangiu@209.202.224.140/index.htm">Travelling=20 confirmation Here</a></td>
```

- In the body it said, “If you are traveling, “Travelling Confirmation Here”
- Here is where you are really being sent
 - **href=3Dftp://futangiu:futangiu@209.202.224.140/index.htm**
- Notice that the link is not only not PayPal, it is an IP address, 2 giveaways of a fraudulent link.

Another Example – Amazon

From: "Amazon,Inc" <webmaster@security.com> 10/3
BC: Houston Carr
Subject: { SPAM 2 }:New ALERT message:

You have 1 new ALERT message
Please login to your **Amazon**
and Confirm Billing And your Information.

To Login, please click the link below:

[Go To www.amazon.com/login.asp](http://www.amazon.com/login.asp)

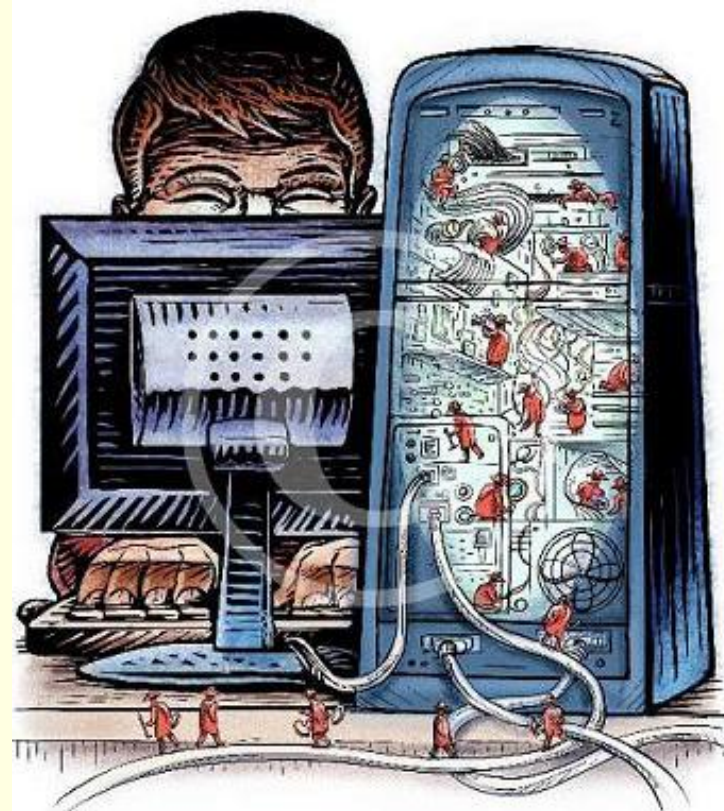
Copyright ? 2007 Amazon,Inc Customer

View Source

```
<FONT face="verdana" size=2><B>You have 1 new ALERT message  
</B><BR>  
Please login to your <B>Amazon</B><BR> and Confirm Billing And your  
Information.<BR><BR>  
To Login, please click the link below:<BR><BR>  
<a href="http://68-116-36-144.static.mdfd.or.charter.com/Online.htm">Go To  
www.amazon.com/login.asp </a></font></p>  
<p><font size="2" face="Arial, Helvetica, sans-serif">
```

Namerni postupci (nastavak)

- Neželjeni softver
 - Špijunski softver (vidi [video](#))
 - Softver za generisanje neželjene e-pošte
 - Kukiji
 - Kuki [demo](#)



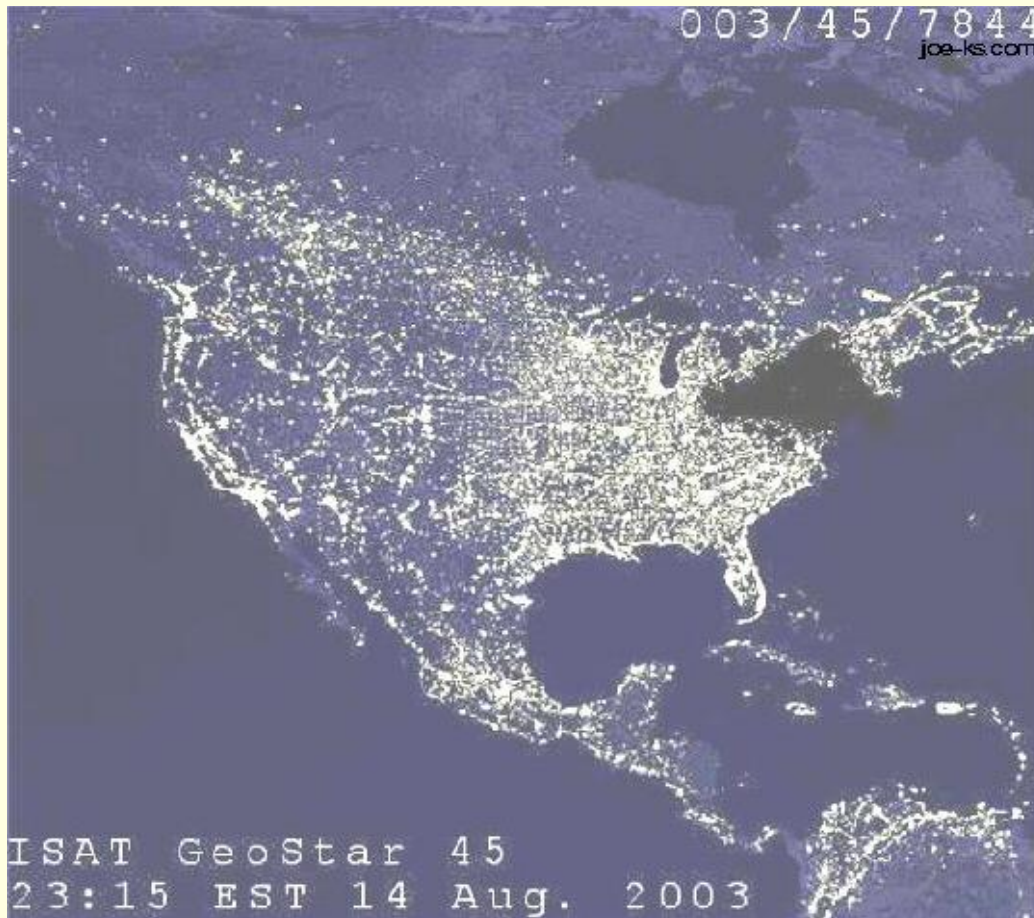
Namerni postupci (nastavak)

- Supervisory control and data acquisition (SCADA) attacks

Wireless
sensor



What if a SCADA attack were successful?



Northeastern
U.S. power
outage in 2003

Results of the power outage in NYC



More results of power outage in NYC



A Successful (Experimental) SCADA Attack

[Video](#) of an experimental SCADA attack
that was successful



3.3 Zaštita informacionih resursa

Rizik!



Rizik uvek
postoji!

And then there is real risk!



Upravljanje rizikom

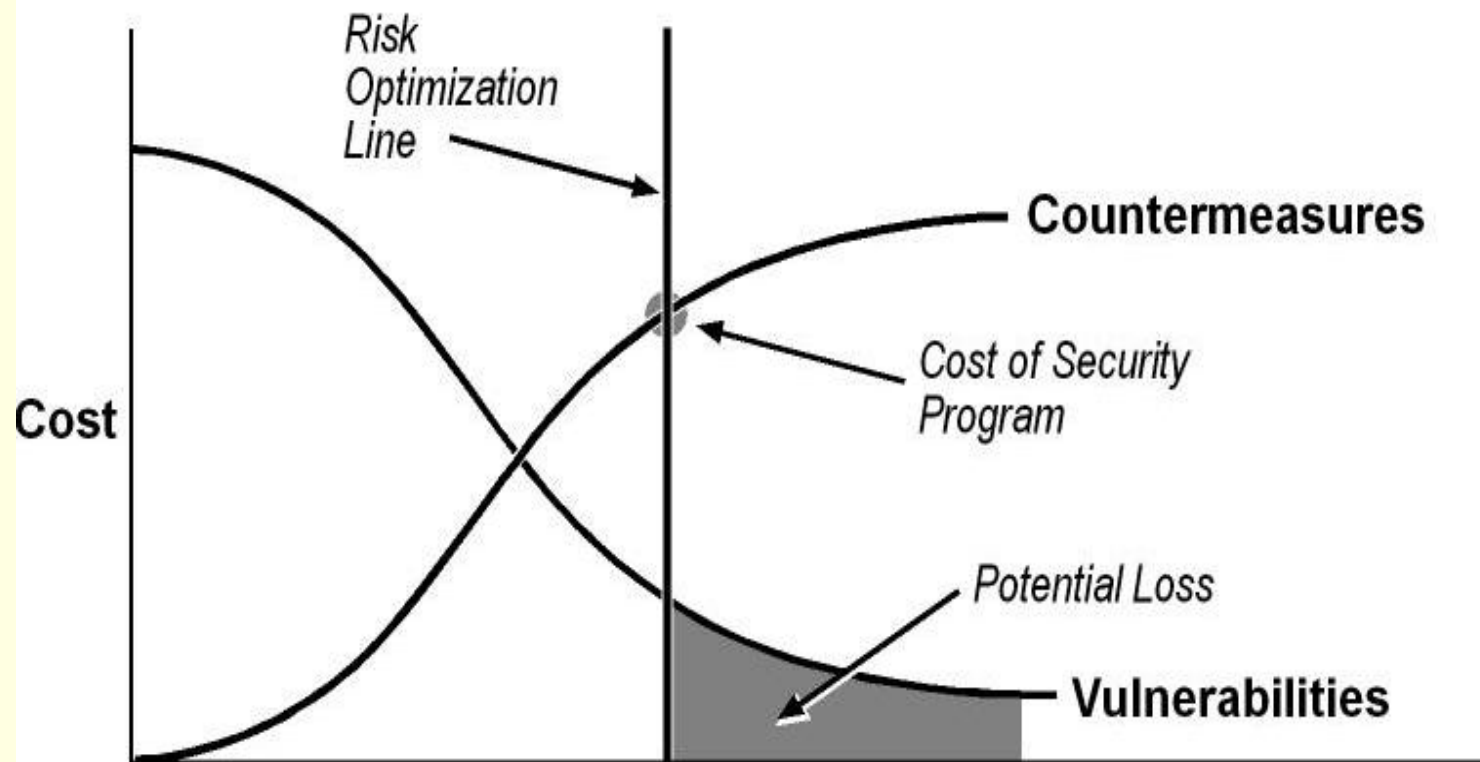
- Rizik
- Upravljanje rizikom
- Analiza rizika
- Ublažavanje rizika

Strategije ublažavanja rizika

- Prihvatanje rizika
- Ograničavanje rizika
- Prenos rizika

Risk Optimization

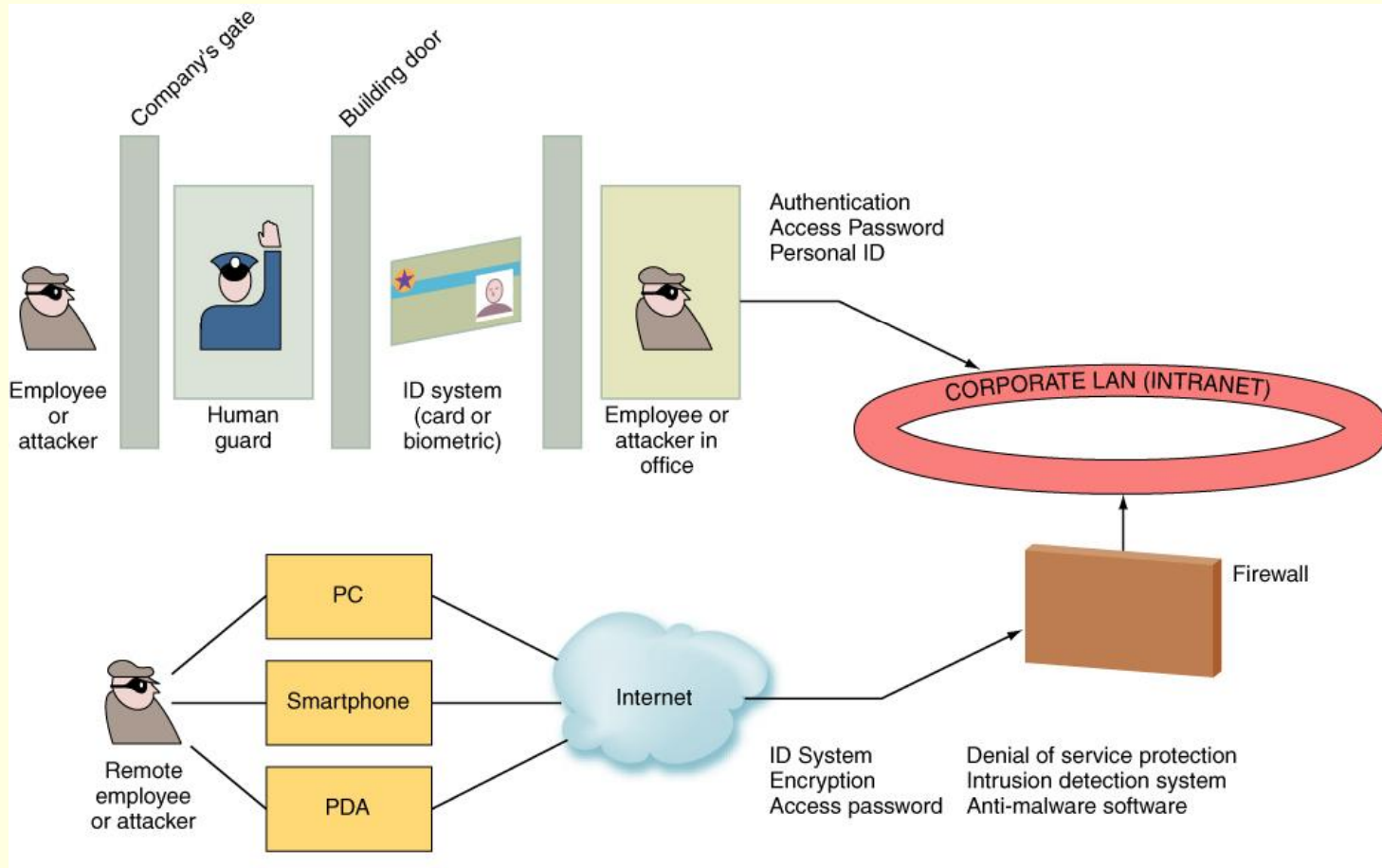
RISK OPTIMIZATION



Kontrole

- Fizi ka kontrola
- Kontrola pristupa
- Komunikaciona (mrežna) kontrola
- Aplikativna kontrola

Where Defense Mechanisms (Controls) Are Located



Kontrola pristupa

- Autentifikacija
 - Ko je neka osoba? (biometrija)
 - Video on biometrics
 - The latest biometric: gait recognition
 - The Raytheon Personal Identification Device
 - Šta nosi neka osoba?
 - Šta radi neka osoba?
 - Šta zna neka osoba?
 - Klasi ne lozinke
 - Duge, ali jednostavne lozinke

Kontrola pristupa (nastavak)

- Autorizacija
 - Privilegija
 - Najmanje pravo

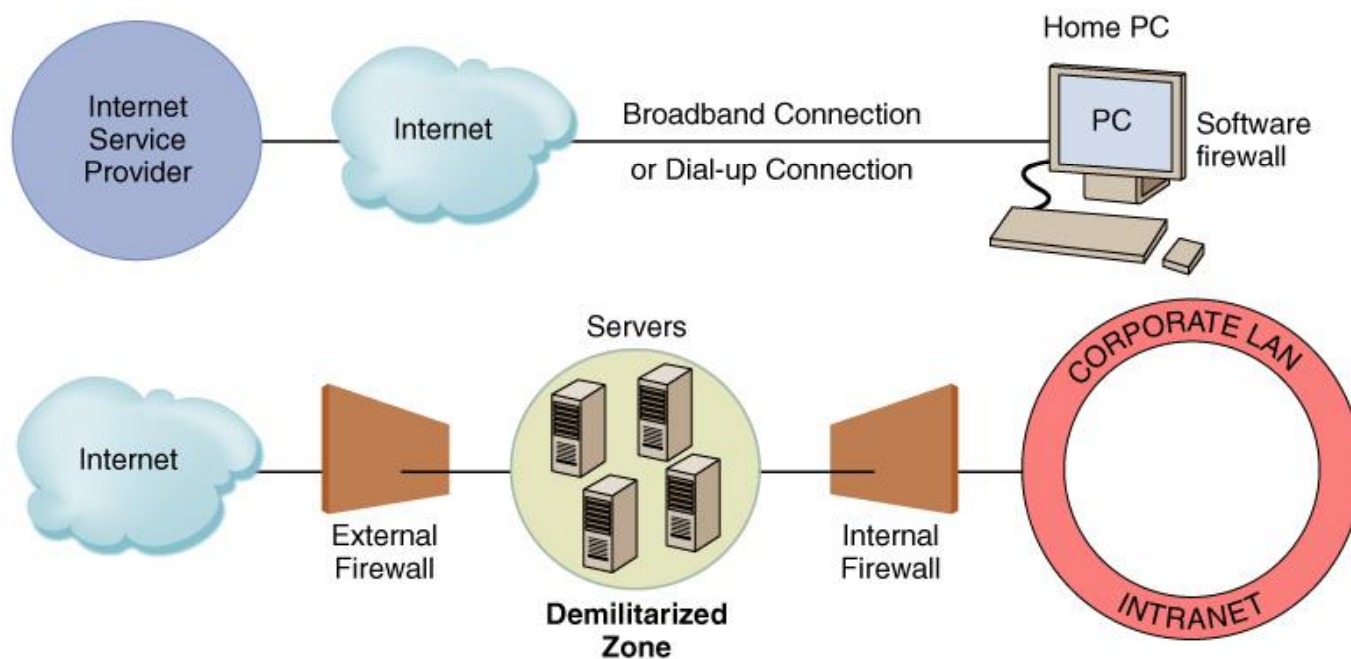
Komunikaciona ili mrežna kontrola

- Paketski filtri
- Sistemi protiv zlonamernog softvera

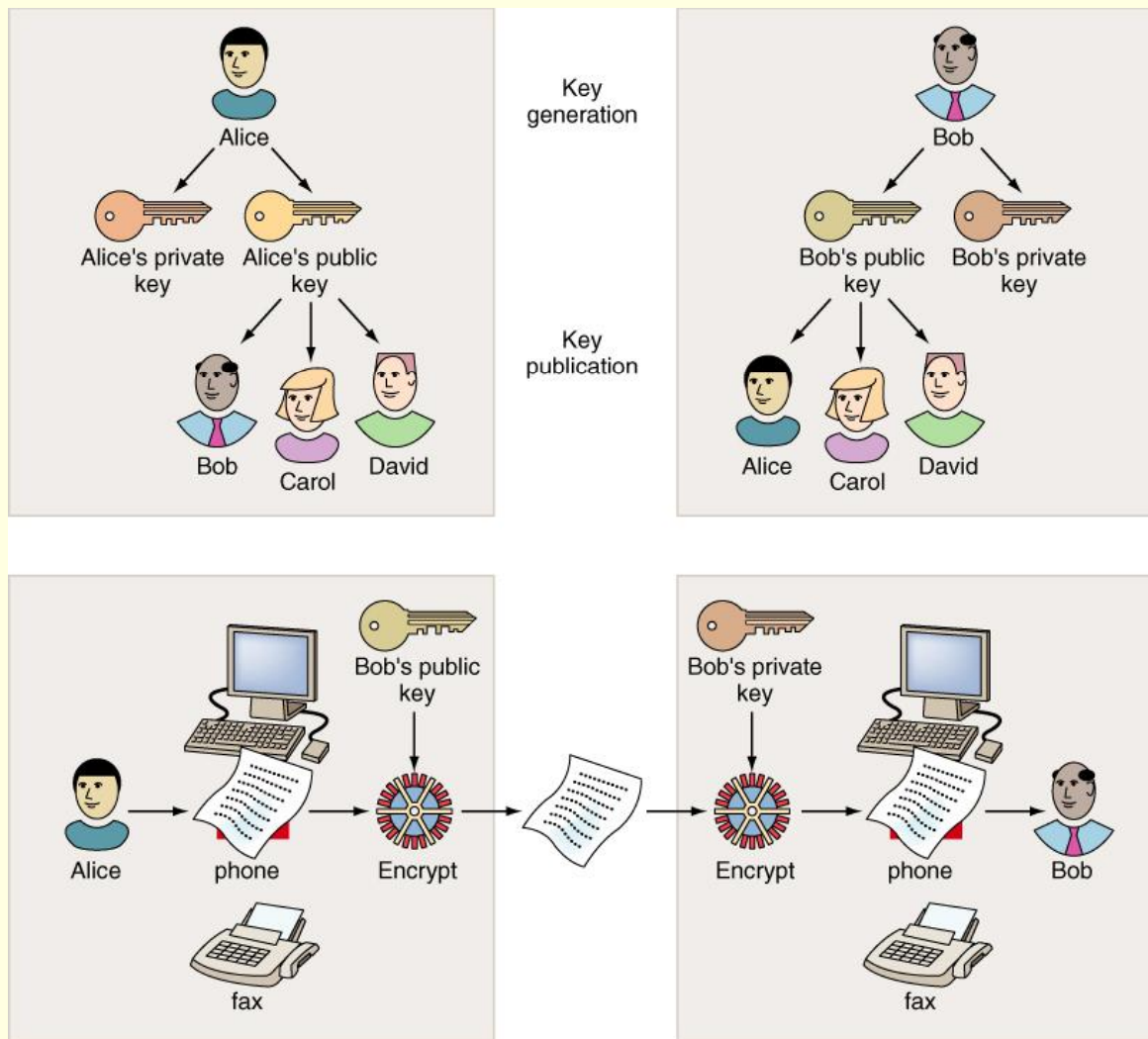


- Stavljanje na belu listu i crna lista
- Sistemi za otkrivanje neovlašćenog pristupa
- Kriptografska zaštita

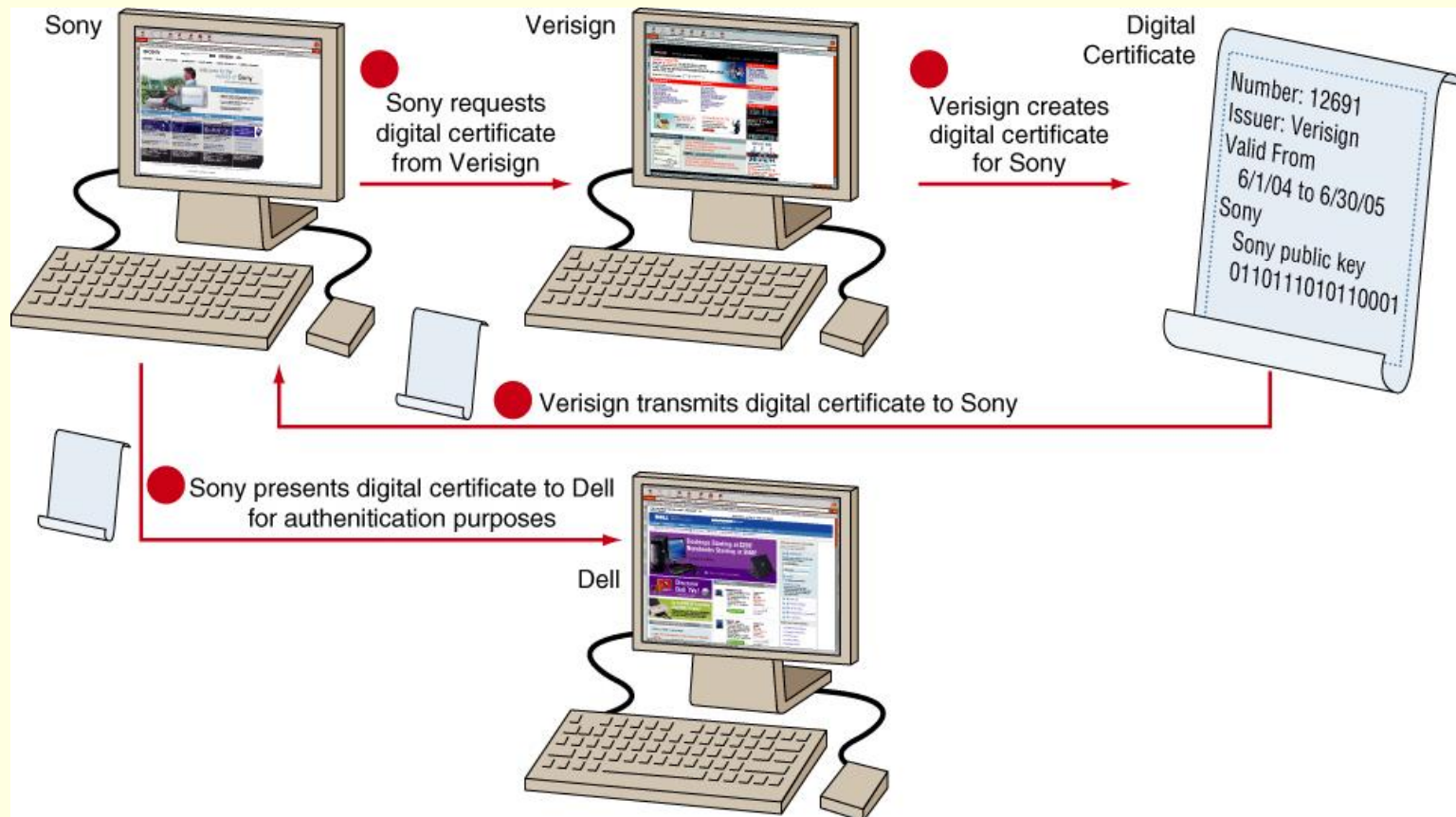
Osnovni paketski filtri za ku nu upotrebu (gore) i korporativni paketski filtri (dole)



Kako funkcioniše šifrovanje javnim ključem



Kako funkcioniše digitalni sertifikat



Komunikaciona ili mrežna kontrola

(nastavak)

- Virtuelna privatna mreža
- Secure Socket Layer (sada i Transport Layer Security)
- Sistemi za upravljanje ranjivostima
- Sistemi nadzora zaposlenih

Virtuelna privatna mreža i tuneliranje



Popularni sistemi za upravljanje ranjivostima



Popularni sistemi nadzora zaposlenih



Sistem nadzora zaposlenih



Planiranje kontinuiteta poslovanja, rezervne kopije podataka i oporavak od havarije

- Vruća lokacija
- Topla lokacija
- Hladna lokacija

Revizija informacionih sistema

- Tipovi revizora i revizije
 - **Interna**
 - **Eksterna**

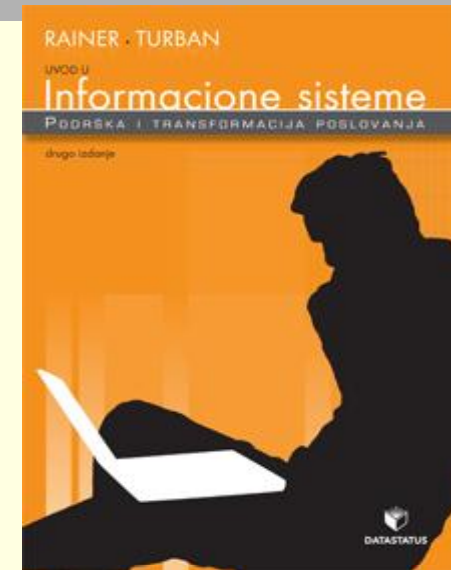
Procedure revizije informacionih sistema

- Revizija oko ra unara
- Revizija unutar ra unara
- Revizija pomo u ra unara

Završni slučaj



POSLOVNI INFORMACIONI SISTEMI



prof. dr Zlatko Langovi



POGLAVLJE 4



Upravljanje podacima i znanjem

Pregled sadržaja poglavlja

- 4.1 Upravljanje podacima
- 4.2 Pojam baza podataka
- 4.3 Sistemi za upravljanje bazama podataka
- 4.4 Skladištenje podataka
- 4.5 Upravljanje podacima u organizaciji
- 4.6 Menadžment znanja

CILJEVI U ENJA

- Spoznati važnost podataka, pitanja u vezi sa korišćenjem podataka i životni ciklus podataka.
- Opisati izvore podataka i objasniti na koji način se podaci prikupljaju.
- Objasniti prednosti pristupa bazi podataka.

CILJEVI U ENJA (nastavak)

- Objasniti načine skladištenja podataka i ulogu skladišta podataka u podršci odlučivanju.
- Objasniti proceduru upravljanja podacima u organizaciji i njihovu ulogu u stvaranju podataka vrhunskog kvaliteta.
- Definirati znanje i opisati različite tipove znanja.

Uvodni slujaj

Panasonic
ideas for life



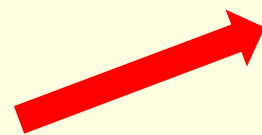
Panasonic
ideas for life



Uvodni slušaj (nastavak)

Stari model

Panasonic
ideas for life



Products



Uvodni slučaj (nastavak)

Novi model

Panasonic
ideas for life



Orders



Examples of Data Sources



Credit card swipes



RFID tags



Digital video surveillance



E-mails



Radiology scans

Blogs



4.1 Upravljanje podacima

Teško je u upravljanju podacima

Količina podataka
eksponencijalno raste.

Podaci su razmešteni i prikupljaju
ih mnogi pojedinci koji koriste
različite metode i uređaje.

Podaci potiču iz mnogih izvora.

Bezbednost podataka, njihov
kvalitet i integritet su od
suštinskog značaja.



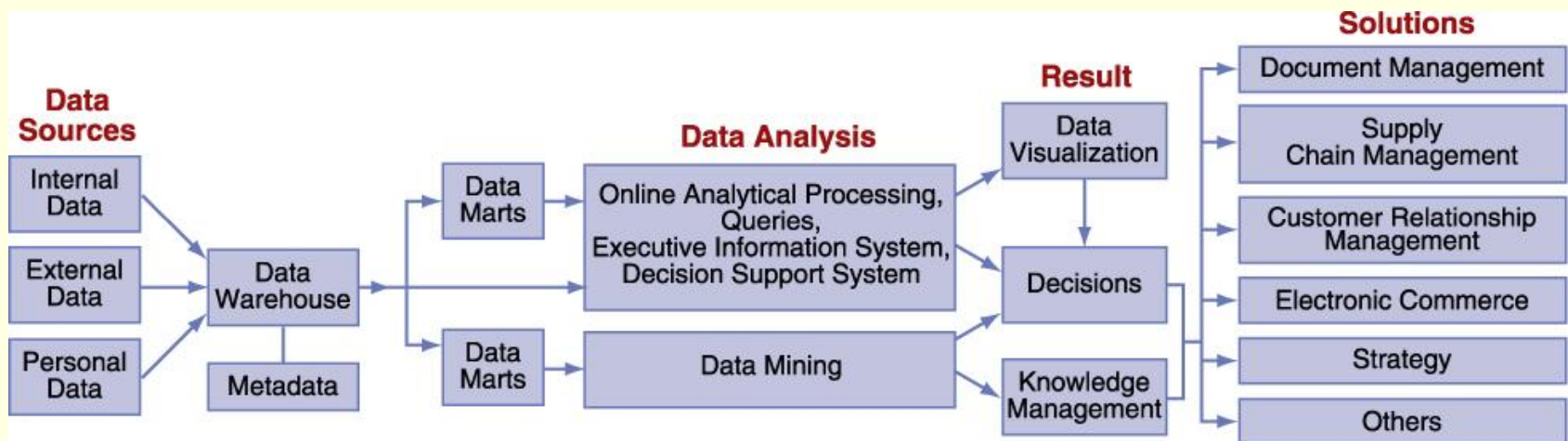
Teško je u upravljanju podacima (nastavak)

An ever-increasing amount of data needs to be considered in making organizational decisions.

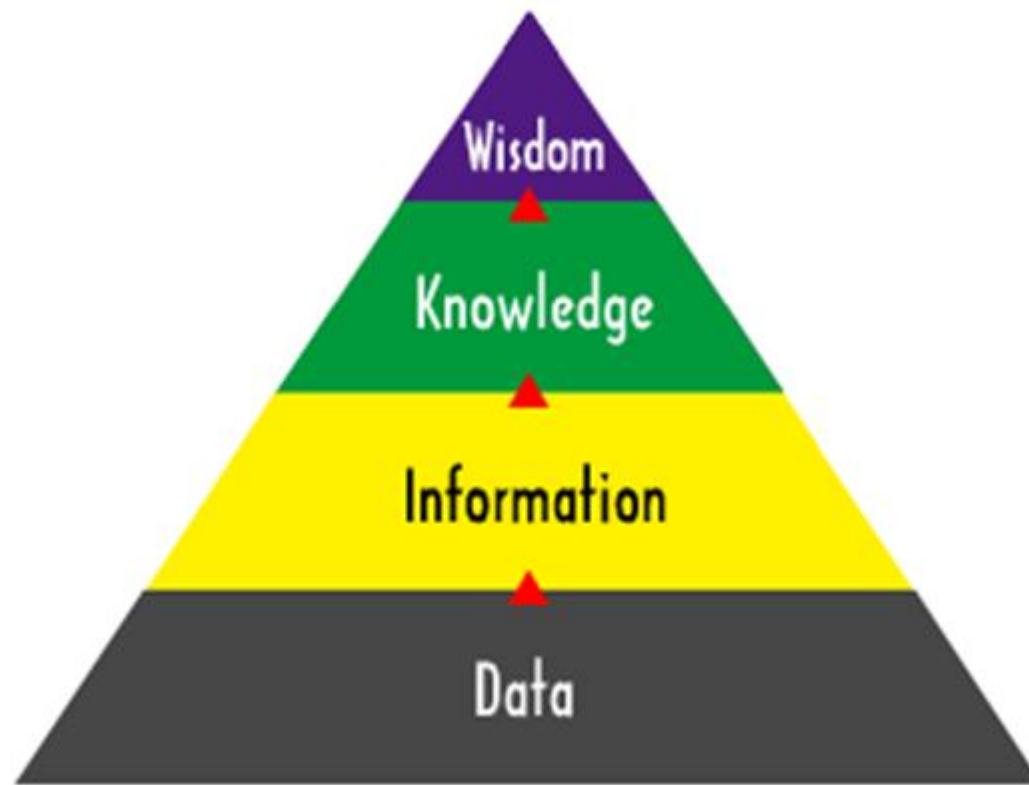
The Data Deluge



Životni ciklus podataka (slika 4.1)



Podatak, informacija, znanje, Wisdom



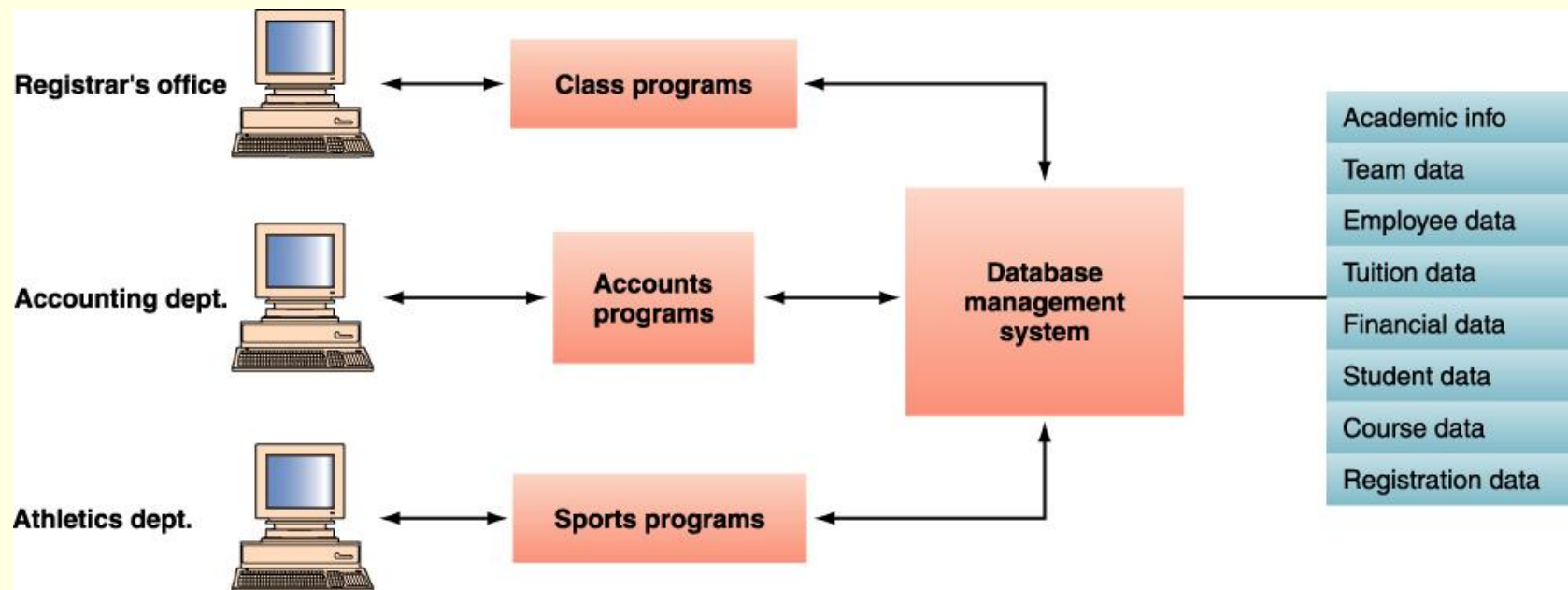
4.2 Pojam baza podataka

- Sistem za upravljanje bazom podataka omogućava svim korisnicima da pristupe svim podacima.
- Sistem za upravljanje bazom podataka minimizira sledeće probleme :
 - Redundantnost podataka
 - Izolovanost podataka
 - Nekonzistencija podataka

Pojam baza podataka (nastavak)

- Sistem za upravljanje bazom podataka maksimizira slede a pitanja:
 - Bezbednost podataka
 - Integritet podataka
 - Nezavisnost podataka

Sistemi za upravljanje bazom podataka



Hijerarhija podataka

Bit

Bajt

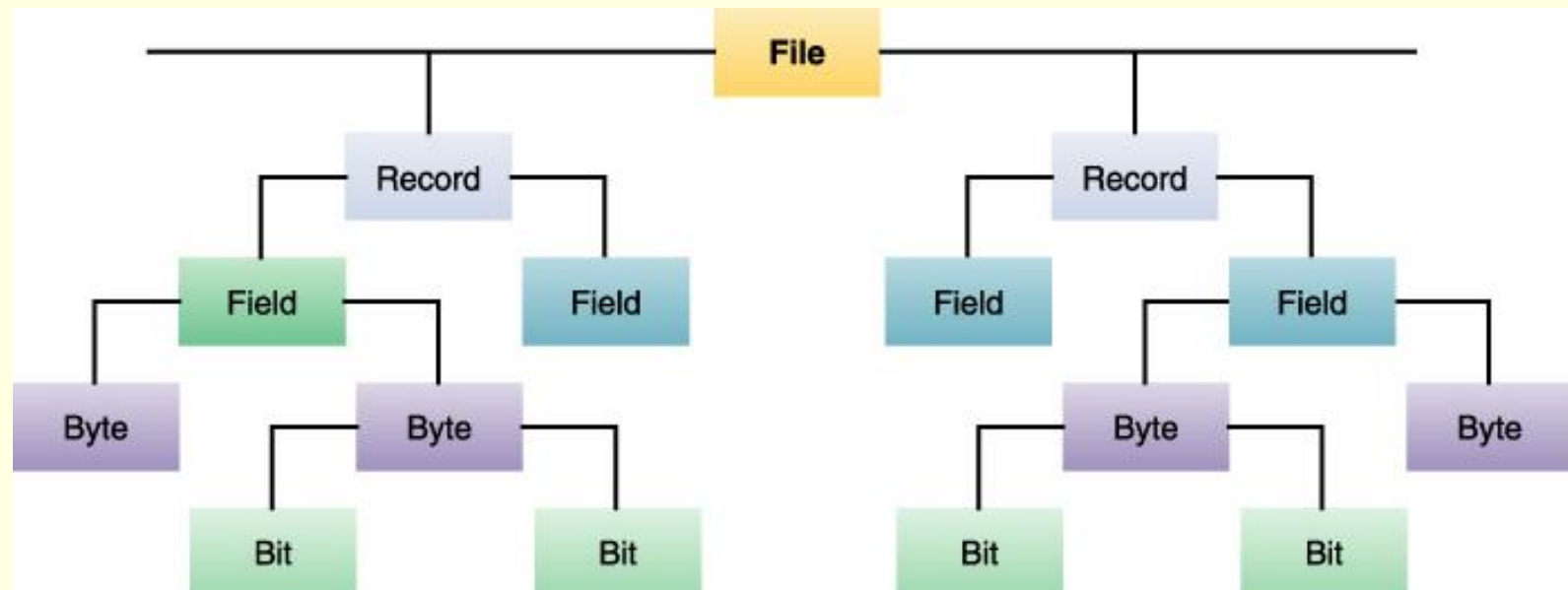
Polje

Zapis

Datoteka (ili tabela)

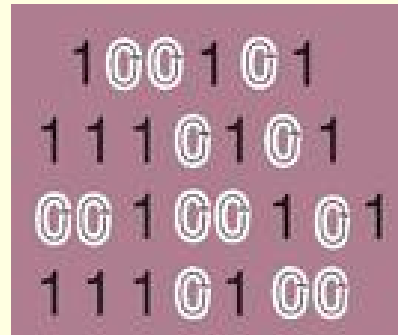
Baza podataka

Hijerarhija podataka za ra unarski zapis



Hijerarhija podataka (nastavak)

Bit (binarna cifra)

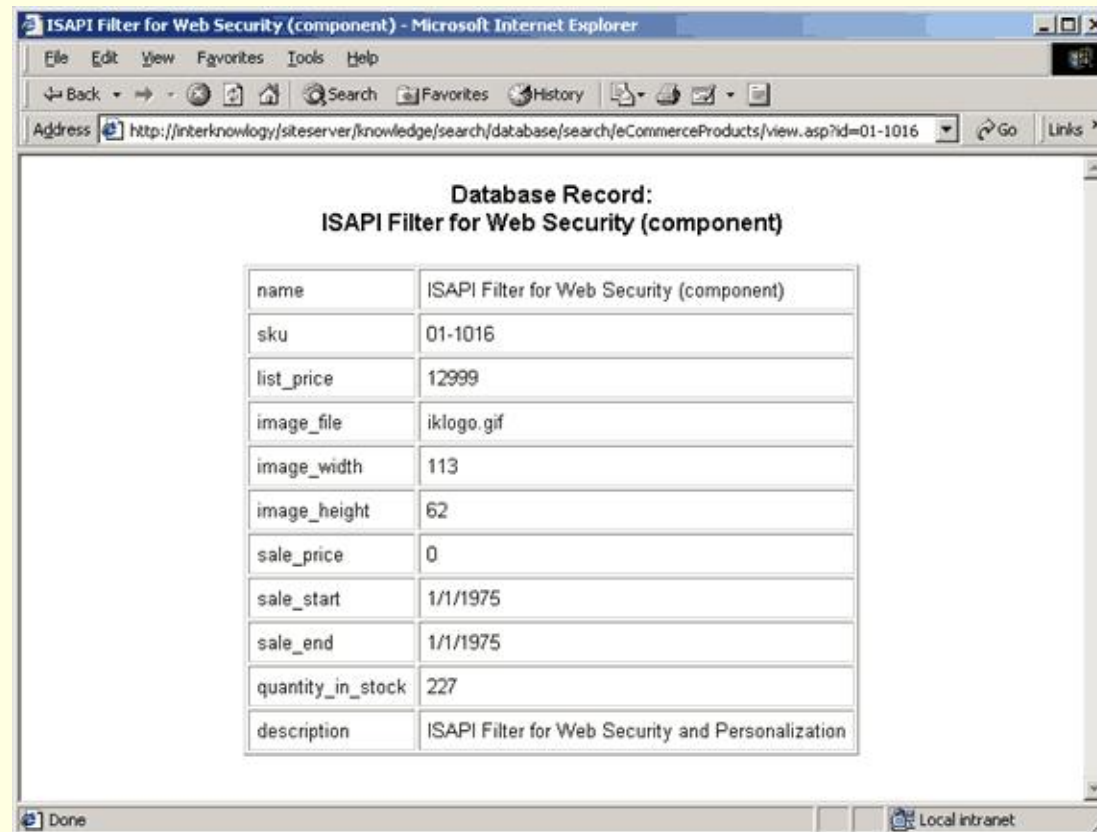


Bajt (osam bita)

01101010

Hijerarhija podataka (nastavak)

Example of Field and Record



The screenshot shows a Microsoft Internet Explorer browser window displaying a database record. The address bar shows the URL: <http://interknowledge/siteserver/knowledge/search/database/search/eCommerceProducts/view.asp?id=01-1016>. The page content is titled "Database Record: ISAPI Filter for Web Security (component)". Below the title is a table with the following data:

name	ISAPI Filter for Web Security (component)
sku	01-1016
list_price	12999
image_file	iklogo.gif
image_width	113
image_height	62
sale_price	0
sale_start	1/1/1975
sale_end	1/1/1975
quantity_in_stock	227
description	ISAPI Filter for Web Security and Personalization

Hijerarhija podataka (nastavak)

Example of Field and Record

The screenshot displays a software interface for managing environmental data. The window title is "vtterrainDB - [epasites.lvt]". The menu bar includes File, Edit, View, Insert, Format, Records, Scripts, Window, and Help. On the left, there is a sidebar with a map icon, "Records: 1499", "Found: 2", and "Unsorted". The main area shows a form for a facility record. At the top, there are radio buttons for "GNIS map features", "EPA Sites" (selected), and "Locations", along with a "View Facility List" button. The form fields are as follows:

Facility Name:	RITZ TOWER HOTEL		
Address:	465 PARK AVENUE		
City:	NEW YORK	State:	NY Zip: 10022
EPA ID:	110001609536	Latitude:	+40.761670 Longitude: -73.970940
State-County Code:	36061		
SIC Code:	6514	OPER OF DWELL OTHER THAN APART	

Below the form, there is a section titled "---- EPA programs this facility is regulated under ----" with the following options:

- Air Emissions:
- Superfund Site:
- Wastewater Discharges:
- Hazardous Waste:
- Toxic Release Inventory:

At the bottom, there are two buttons: "Show on Map" and "Show on Envirofacts Web Site".

Kreiranje baze podataka

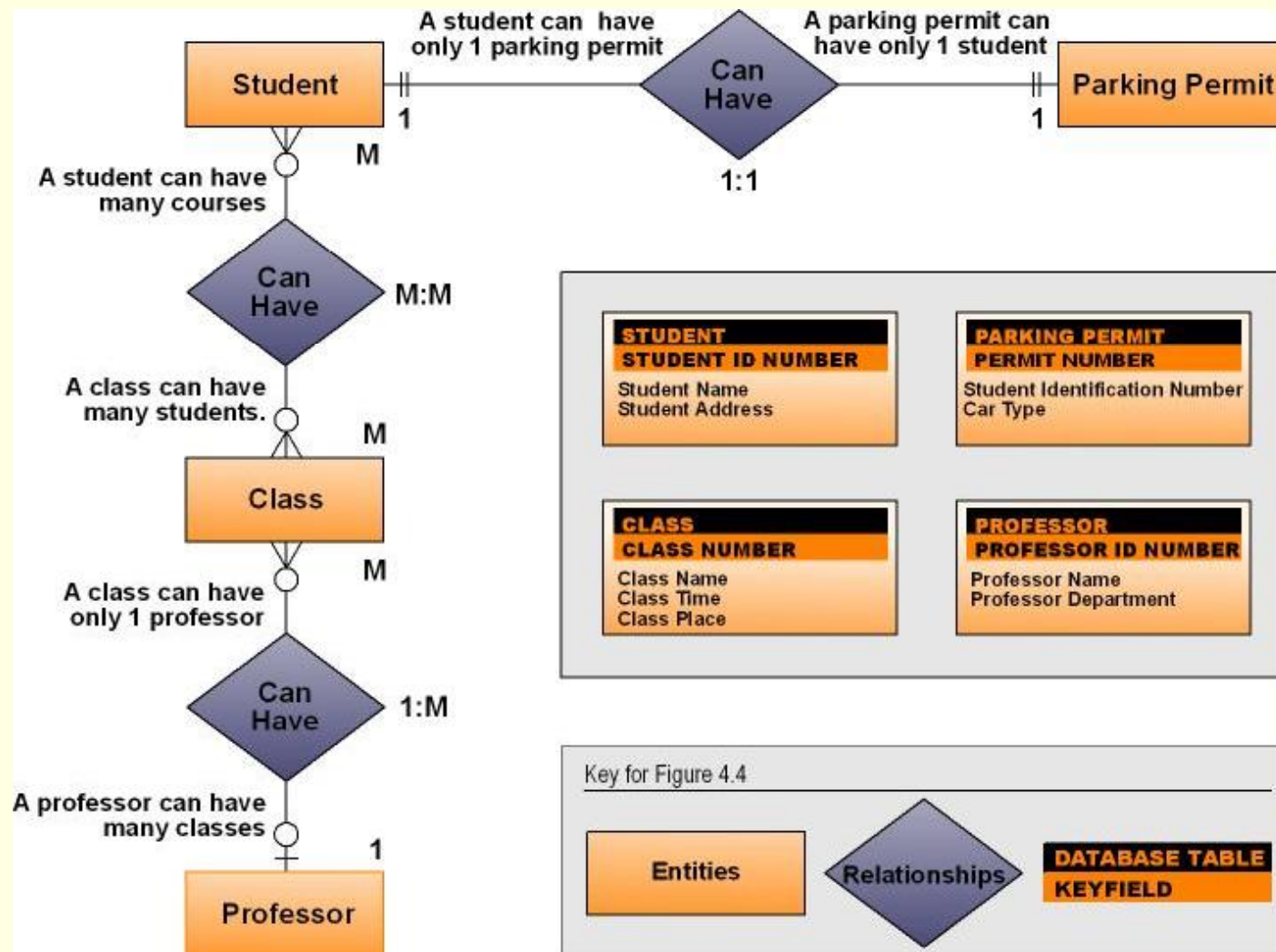
Model podataka

- Entitet
- Atribut
- Primarni klju
- Sekundarni klju

Modeliranje veza i entiteta

- Projektanti baze podataka planiraju izradu baze podataka u procesu koji se naziva **modeliranje veza i entiteta (ER modeliranje)**.
- **Dijagrami veza i entiteta (ER dijagrami)** sastoje se od entiteta, atributa i veza.
 - Klasa entiteta
 - Instanca
 - Identifikatori (ključevi)

Model dijagrama veza i entiteta



4.3 Sistemi za upravljanje bazama podataka

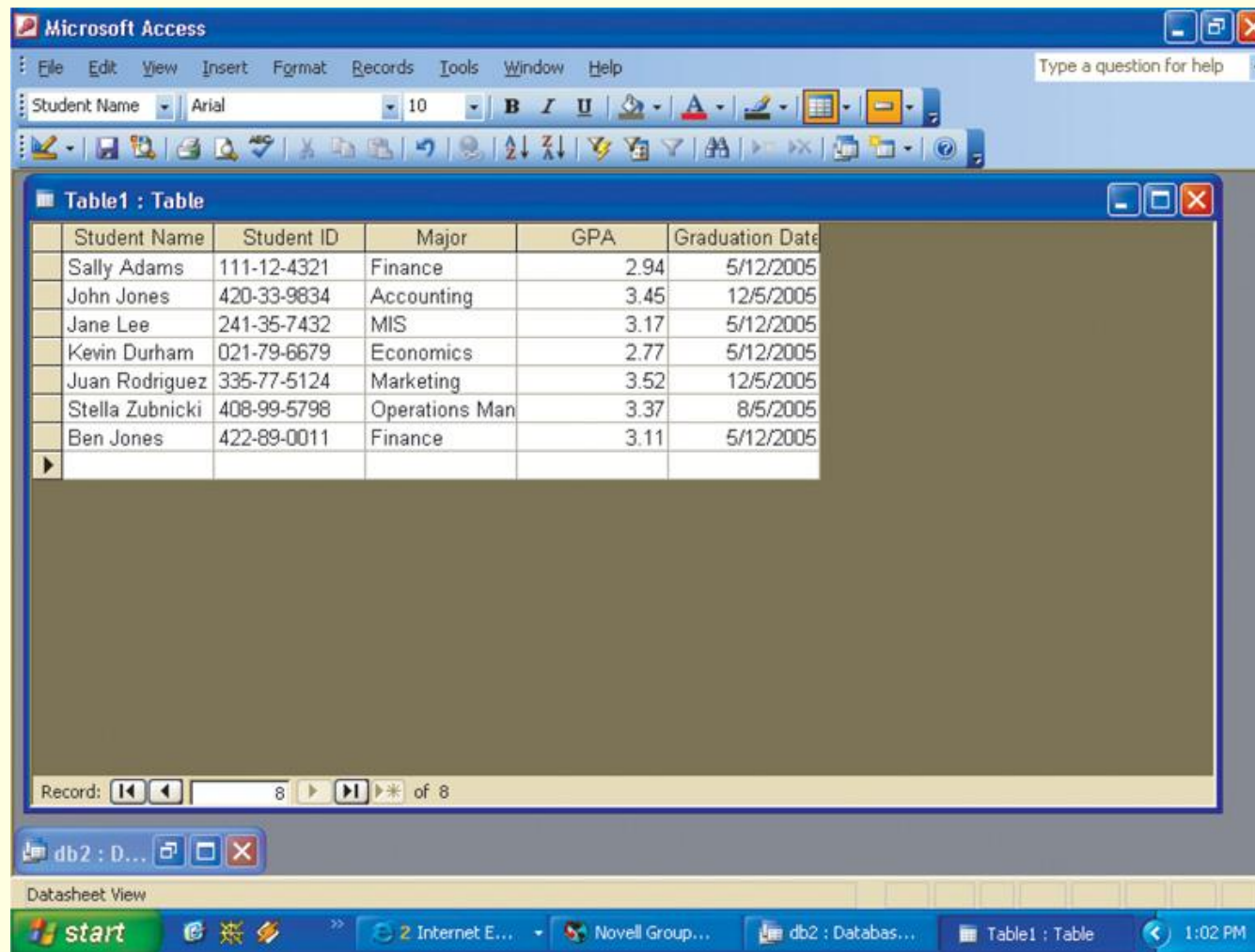
Sistem za upravljanje bazom podataka

Relacioni model baze podataka

Structured Query Language (SQL)

Pretraživanja pomoću primera

Primer studentske baze podataka



The screenshot displays the Microsoft Access application window. The title bar reads "Microsoft Access". The menu bar includes "File", "Edit", "View", "Insert", "Format", "Records", "Tools", "Window", and "Help". The toolbar shows various icons for editing and navigation. The main window displays a table titled "Table1 : Table" with the following data:

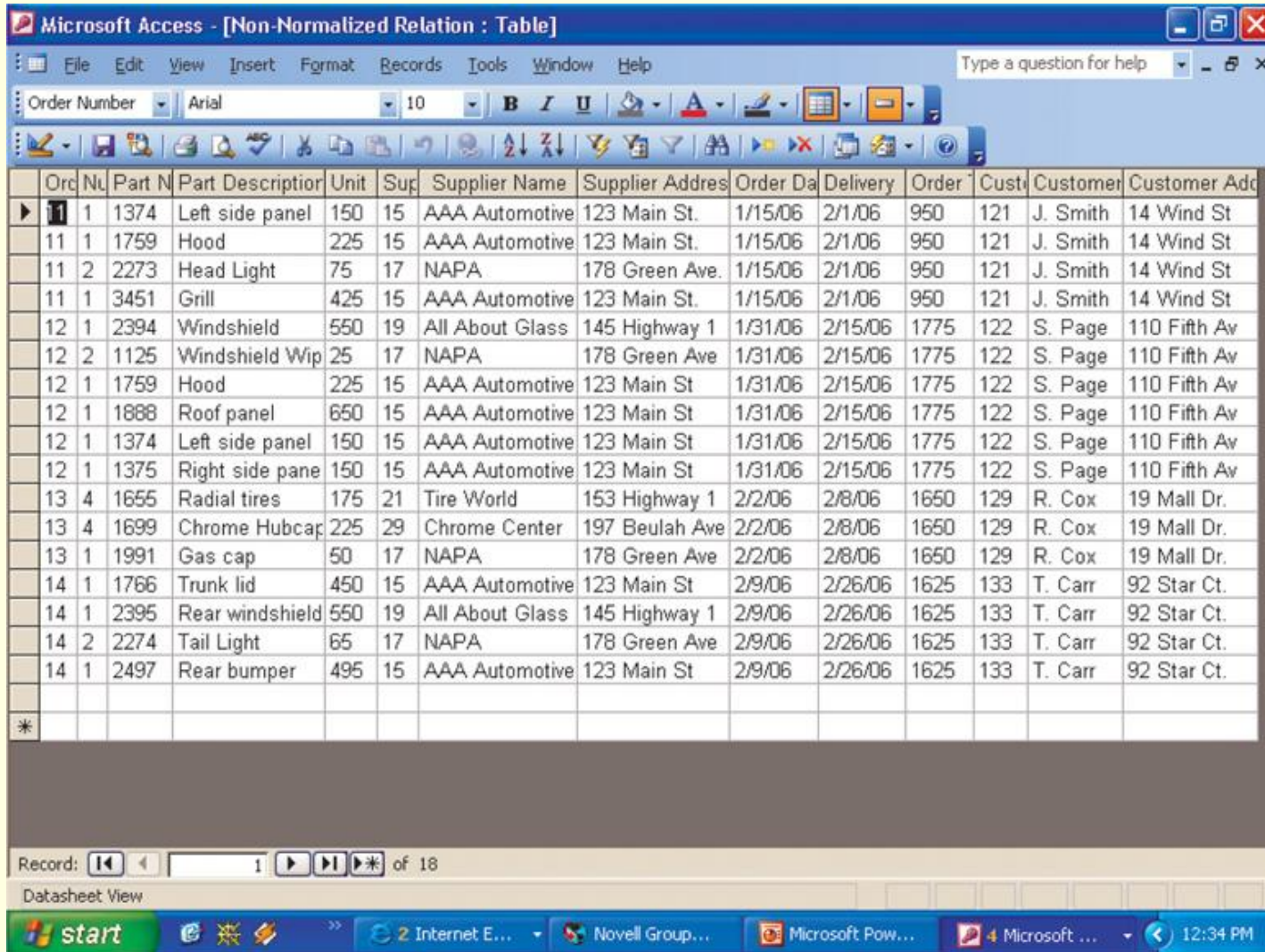
Student Name	Student ID	Major	GPA	Graduation Date
Sally Adams	111-12-4321	Finance	2.94	5/12/2005
John Jones	420-33-9834	Accounting	3.45	12/5/2005
Jane Lee	241-35-7432	MIS	3.17	5/12/2005
Kevin Durham	021-79-6679	Economics	2.77	5/12/2005
Juan Rodriguez	335-77-5124	Marketing	3.52	12/5/2005
Stella Zubnicki	408-99-5798	Operations Man	3.37	8/5/2005
Ben Jones	422-89-0011	Finance	3.11	5/12/2005

At the bottom of the table window, the record navigation bar shows "Record: 14 of 8". The taskbar at the bottom of the screen shows the "start" button, several icons, and open applications including "Internet E...", "Novell Group...", "db2 : Databas...", and "Table1 : Table". The system clock shows "1:02 PM".

Normalizacija

- **Normalizacija** je postupak analize i sažimanja relacione baze podataka na veličinu:
 - Koja minimizira redundantnost
 - Koja maksimizira integritet podataka
 - Performanse obrade
- Podaci su normalizovani kada atributi u tabeli zavise samo od primarnog ključa.

Nenormalizovane relacije



Microsoft Access - [Non-Normalized Relation : Table]

File Edit View Insert Format Records Tools Window Help

Type a question for help

Order Number Arial 10 B I U

	Ord	Nu	Part N	Part Description	Unit	Sup	Supplier Name	Supplier Address	Order Da	Delivery	Order	Cust	Customer	Customer Add
▶	1	1	1374	Left side panel	150	15	AAA Automotive	123 Main St.	1/15/06	2/1/06	950	121	J. Smith	14 Wind St
	11	1	1759	Hood	225	15	AAA Automotive	123 Main St.	1/15/06	2/1/06	950	121	J. Smith	14 Wind St
	11	2	2273	Head Light	75	17	NAPA	178 Green Ave.	1/15/06	2/1/06	950	121	J. Smith	14 Wind St
	11	1	3451	Grill	425	15	AAA Automotive	123 Main St.	1/15/06	2/1/06	950	121	J. Smith	14 Wind St
	12	1	2394	Windshield	550	19	All About Glass	145 Highway 1	1/31/06	2/15/06	1775	122	S. Page	110 Fifth Av
	12	2	1125	Windshield Wip	25	17	NAPA	178 Green Ave	1/31/06	2/15/06	1775	122	S. Page	110 Fifth Av
	12	1	1759	Hood	225	15	AAA Automotive	123 Main St	1/31/06	2/15/06	1775	122	S. Page	110 Fifth Av
	12	1	1888	Roof panel	650	15	AAA Automotive	123 Main St	1/31/06	2/15/06	1775	122	S. Page	110 Fifth Av
	12	1	1374	Left side panel	150	15	AAA Automotive	123 Main St	1/31/06	2/15/06	1775	122	S. Page	110 Fifth Av
	12	1	1375	Right side pane	150	15	AAA Automotive	123 Main St	1/31/06	2/15/06	1775	122	S. Page	110 Fifth Av
	13	4	1655	Radial tires	175	21	Tire World	153 Highway 1	2/2/06	2/8/06	1650	129	R. Cox	19 Mall Dr.
	13	4	1699	Chrome Hubcap	225	29	Chrome Center	197 Beulah Ave	2/2/06	2/8/06	1650	129	R. Cox	19 Mall Dr.
	13	1	1991	Gas cap	50	17	NAPA	178 Green Ave	2/2/06	2/8/06	1650	129	R. Cox	19 Mall Dr.
	14	1	1766	Trunk lid	450	15	AAA Automotive	123 Main St	2/9/06	2/26/06	1625	133	T. Carr	92 Star Ct.
	14	1	2395	Rear windshield	550	19	All About Glass	145 Highway 1	2/9/06	2/26/06	1625	133	T. Carr	92 Star Ct.
	14	2	2274	Tail Light	65	17	NAPA	178 Green Ave	2/9/06	2/26/06	1625	133	T. Carr	92 Star Ct.
	14	1	2497	Rear bumper	495	15	AAA Automotive	123 Main St	2/9/06	2/26/06	1625	133	T. Carr	92 Star Ct.
*														

Record: 1 of 18

Datasheet View

start 2 Internet E... Novell Group... Microsoft Pow... 4 Microsoft ... 12:34 PM

Normalizovanje baze podataka (deo A)

The screenshot displays the Microsoft Access interface with three data tables open in Datasheet View. The 'Order' table has 4 records, the 'Supplier' table has 5 records, and the 'Customer' table has 4 records. The interface includes a menu bar, a toolbar, and a status bar at the bottom.

Order : Table

Order Number	Order Date	Delivery Date	Order Total	Customer Num
11	1/15/06	2/1/06	950	121
12	1/31/06	2/15/06	1775	122
13	2/2/06	2/8/06	1650	129
14	2/9/06	2/26/06	1625	133

Record: 1 of 4

Supplier : Table

Supplier Number	Supplier Name	Supplier Address
15	AAA Automotive	123 Main St.
17	NAPA	178 Green Ave.
19	All About Glass	145 Highway 1
21	Tire World	153 Highway 1
29	Chrome Center	197 Beulah Ave

Record: 1 of 5

Customer : Table

Customer Num	Customer Name	Customer Address
121	J. Smith	14 Wind St.
122	S. Page	110 Fifth Ave
129	R. Cox	19 Mall Dr.
133	T. Carr	92 Star Ct.

Record: 1 of 4

db1 : D...
Datasheet View
start | Internet E... | Novell Group... | Microsoft Pow... | 4 Microsoft ... | 12:27 PM

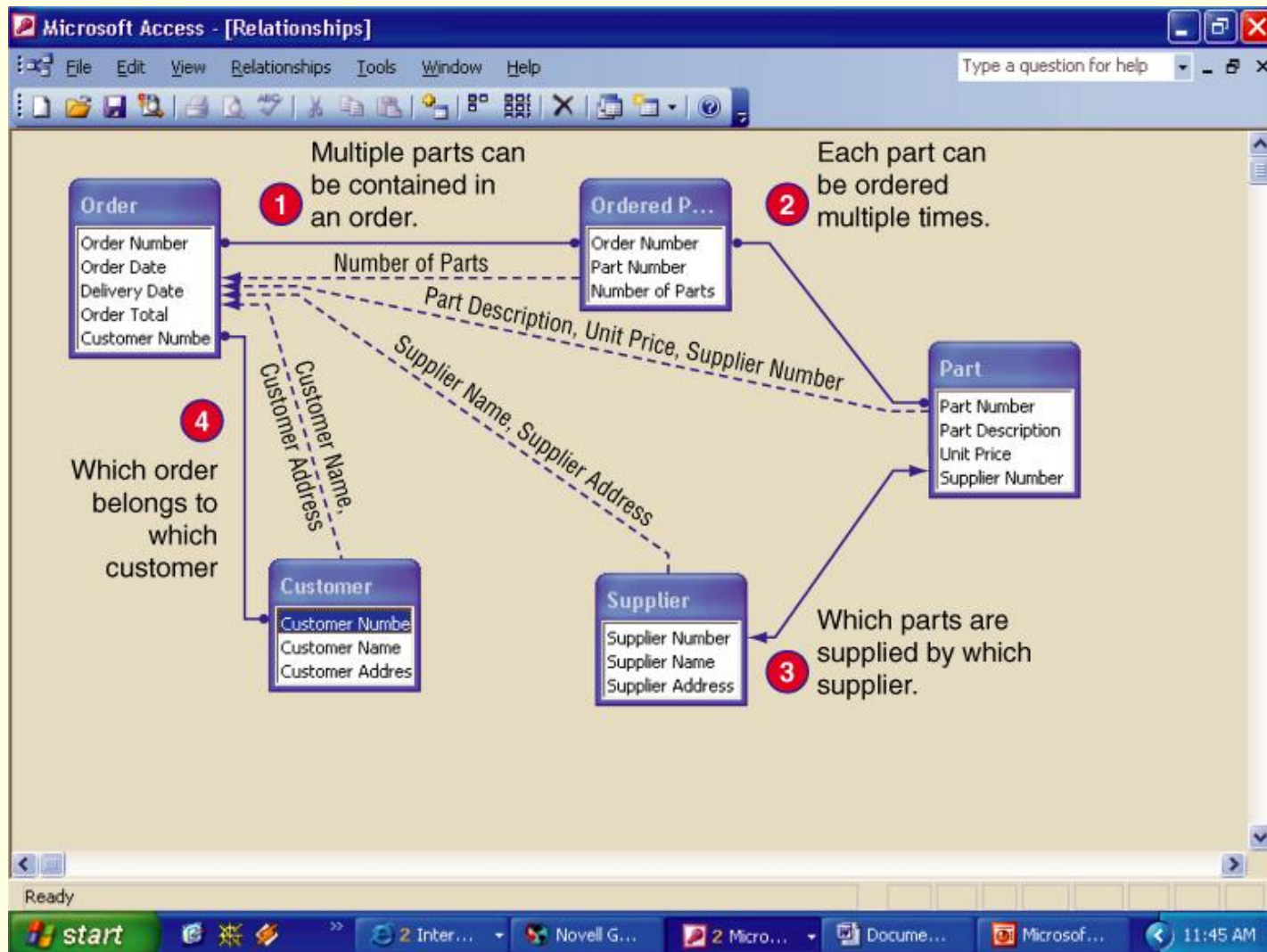
Normalizovanje baze podataka (deo B)

The screenshot displays the Microsoft Access interface with two tables open in Datasheet View. The 'Ordered Parts' table shows a list of orders with columns for Order Number, Part Number, and Number of Parts. The 'Part' table shows a list of parts with columns for Part Number, Part Description, Unit Price, and Supplier Number. The status bar at the bottom indicates 'Datsheet View' and shows the system tray with the time 12:30 PM.

Order Number	Part Number	Number of Parts
12	1125	2
11	1374	1
12	1374	1
12	1375	1
13	1655	4
13	1699	4
11	1759	1
12	1759	1
14	1766	1
12	1888	1
13	1991	1
11	2273	2
14	2274	2
12	2394	1
14	2395	1
14	2497	1
11	3451	1

Part Number	Part Description	Unit Price	Supplier Number
1699	Chrome Hubcap	225	29
2394	Front Windshiel	550	19
1991	Gas cap	50	17
3451	Grill	425	15
2273	Head Light	75	17
1759	Hood	225	15
1374	Left side panel	150	15
1655	Radial tire	175	21
2497	Rear bumper	495	15
2395	Rear windshield	550	19
1375	Right side pane	150	15
1888	Roof panel	650	15
2274	Tail Light	65	17
1766	Trunk lid	450	15
1125	Windshield Wip	25	17

Normalizacija sastavljanja narudžbenice



Turnitin (Primer iz prakse 4.1)

A Turnitin originality report

Turnitin Originality Report [←previous](#) [next▶](#) [print](#) [help](#)
[save](#)
[refresh](#)
[prefs](#)

Assignment 2 by training student05
Processed on 03-08-07 16:25 EST ID: 41981703 Word Count: 213

Overall Similarity Index: 43% [exclude quoted](#) [exclude bibliography](#) mode:

UFOs Assignment 2
UFOs are a fascinating area of study that for some become almost like a religion. However,


about the only point that can be made concerning UFOs without the risk of starting an unpleasant controversy is that they are supremely controversial. 2

Sightings of unusual aerial phenomena date back to ancient times, but reports of UFO sightings started becoming more common after the first widely publicized U.S. sighting in 1947. Many tens of thousands of such claimed observations have since been reported worldwide, and it is very likely many more go unreported due to fear of public ridicule because of the social stigma created around the UFO topic. In 1

my own experience, I have reason to believe UFOs are very real. One night I was driving along a road in the desert and had a very close encounter of my own. All of a sudden I noticed a strange glow all around me. It was so strong

1 32% match (internet from 01/18/07)
<http://en.wikipedia.org>

2 11% match (internet)
<http://ufoevidence.org>

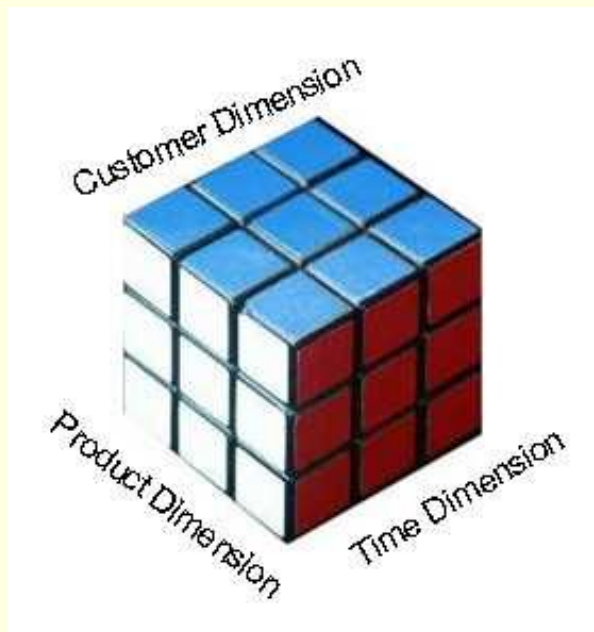


4.4 Skladištenje podataka

Skladište podataka

- Skladišta podataka su organizovana prema poslovnoj dimenziji ili temi.
- Skladišta podataka su multidimenzionalna.

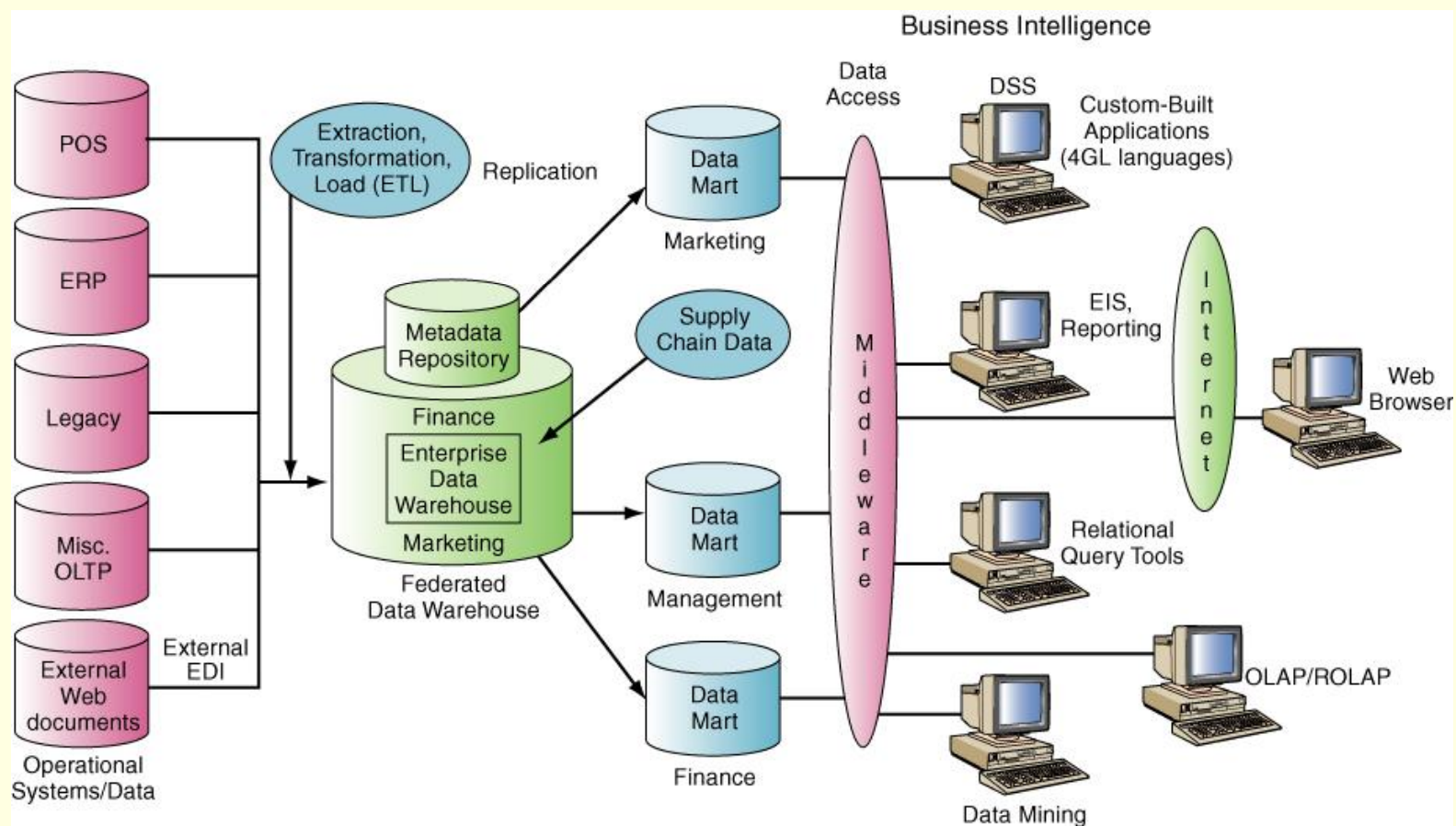
**Kocka
podataka**



Skladištenje podataka (nastavak)

- Data warehouses are historical.
- Skladišta podataka koriste obradu u realnom vremenu.

Okvir i pregled skladišta podataka



Relacione baze podataka

(a) 2003

Product	Region	Sales
Nuts	East	50
Nuts	West	60
Nuts	Central	100
Screws	East	40
Screws	West	70
Screws	Central	80
Bolts	East	90
Bolts	West	120
Bolts	Central	140
Washers	East	20
Washers	West	10
Washers	Central	30

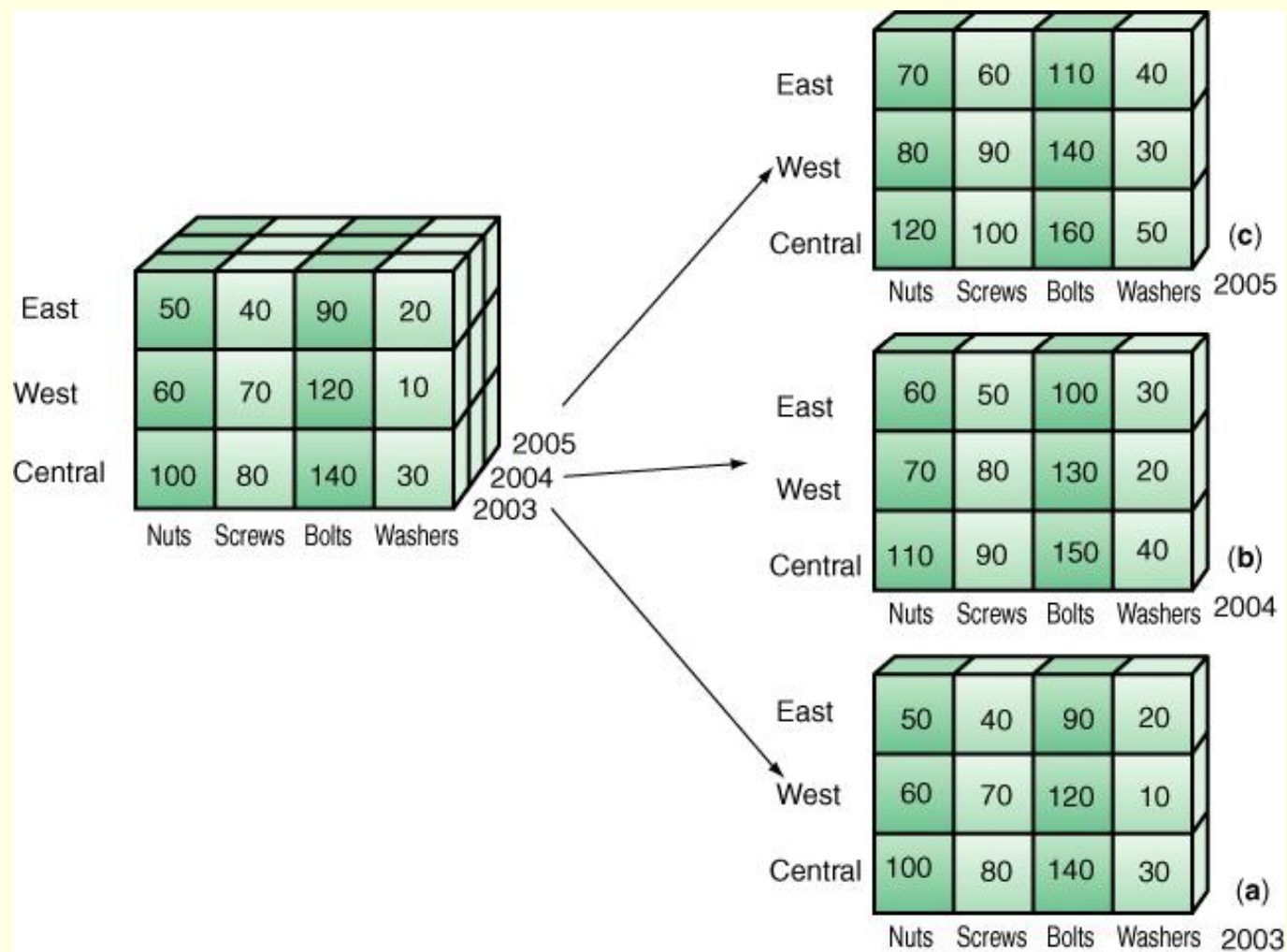
(b) 2004

Product	Region	Sales
Nuts	East	60
Nuts	West	70
Nuts	Central	110
Screws	East	50
Screws	West	80
Screws	Central	90
Bolts	East	100
Bolts	West	130
Bolts	Central	150
Washers	East	30
Washers	West	20
Washers	Central	40

(c) 2005

Product	Region	Sales
Nuts	East	70
Nuts	West	80
Nuts	Central	120
Screws	East	60
Screws	West	90
Screws	Central	100
Bolts	East	110
Bolts	West	140
Bolts	Central	160
Washers	East	40
Washers	West	30
Washers	Central	50

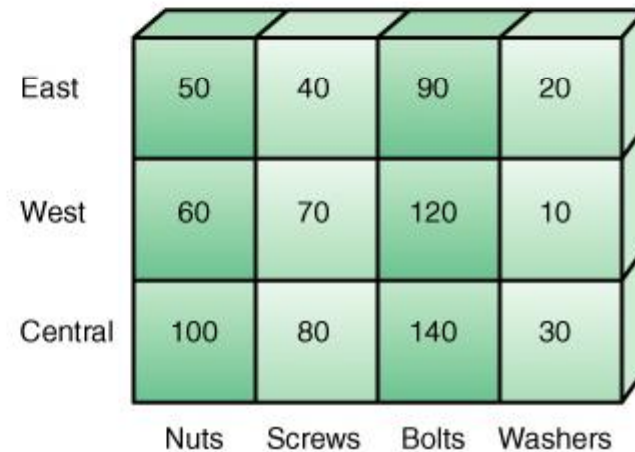
Multidimensionalne baze podataka



Jednakosti izme u relacionih i multidimenzionalnih baza podataka

Product	Region	Sales
Nuts	East	50
Nuts	West	60
Nuts	Central	100
Screws	East	40
Screws	West	70
Screws	Central	80
Bolts	East	90
Bolts	West	120
Bolts	Central	140
Washers	East	20
Washers	West	10
Washers	Central	30

2003



(a)
2003

Jednakosti izme u relacionih i multidimenzionalnih baza podataka

Product	Region	Sales
Nuts	East	60
Nuts	West	70
Nuts	Central	110
Screws	East	50
Screws	West	80
Screws	Central	90
Bolts	East	100
Bolts	West	130
Bolts	Central	150
Washers	East	30
Washers	West	20
Washers	Central	40

2004

East	60	50	100	30
West	70	80	130	20
Central	110	90	150	40
	Nuts	Screws	Bolts	Washers

(b)
2004

Jednakosti izme u relacionih i multidimenzionalnih baza podataka

Product	Region	Sales
Nuts	East	70
Nuts	West	80
Nuts	Central	120
Screws	East	60
Screws	West	90
Screws	Central	100
Bolts	East	110
Bolts	West	140
Bolts	Central	160
Washers	East	40
Washers	West	30
Washers	Central	50

2005



East	70	60	110	40
West	80	90	140	30
Central	120	100	160	50
	Nuts	Screws	Bolts	Washers

(c)
2005

Prednosti skladištenja podataka

- Krajnji korisnici mogu brzo i lako pristupiti željenim podacima pomoću veb-brauzera jer su locirani na jednom mestu.
- Krajnji korisnici mogu obaviti sveobuhvatnu analizu uz pomoć podataka kakvu ranije nisu mogli izvršavati.
- Krajnji korisnici mogu imati konsolidovan pregled podataka.

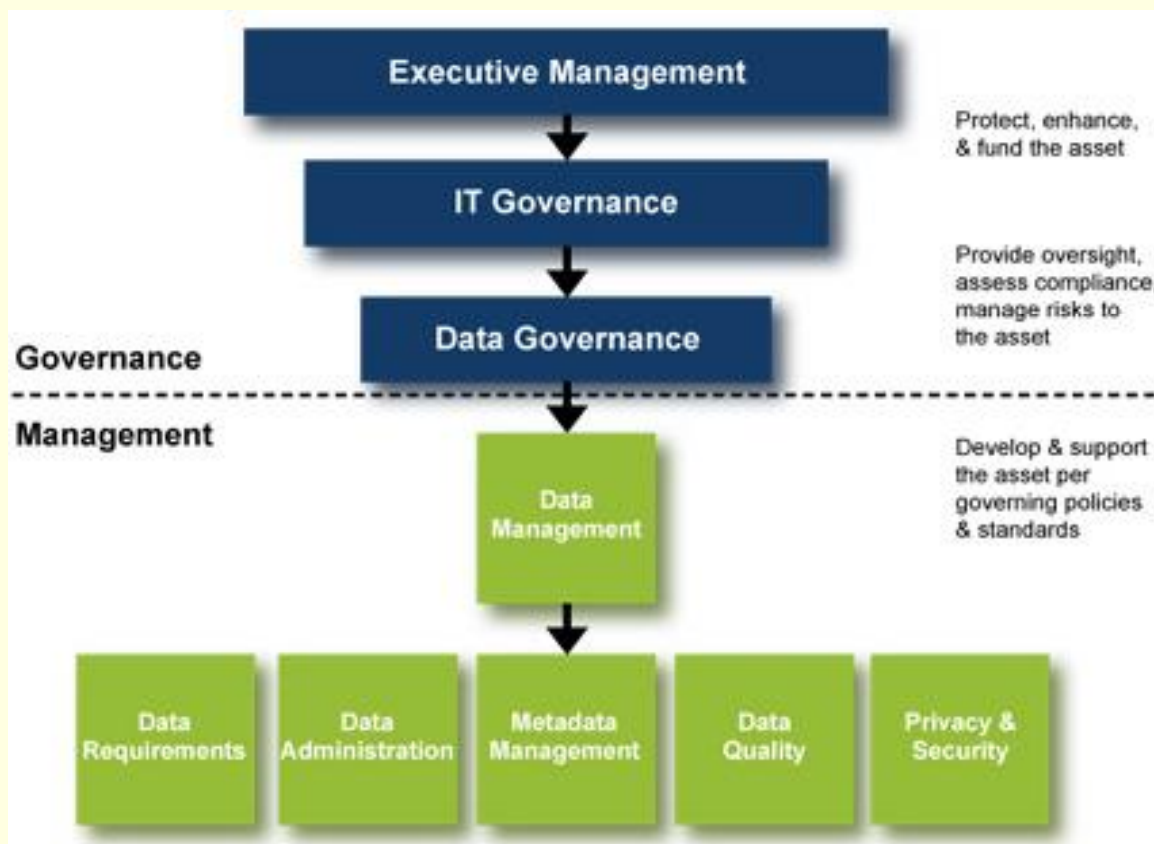
Lokalna skladišta podataka

Lokalno skladište podataka je malo skladište podataka projektovano za potrebe krajnjih korisnika u strateškoj poslovnoj jedinici (Strategic Business Unit – SBU).

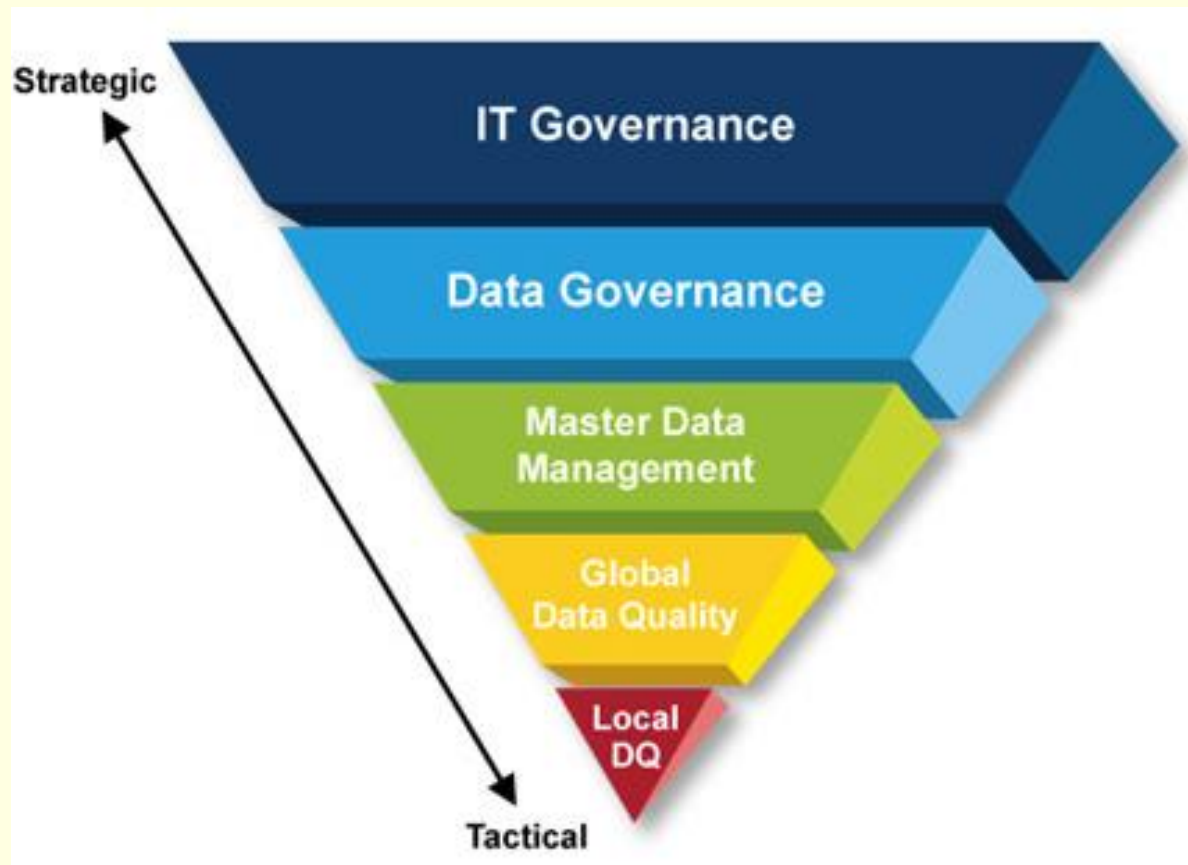
4.5 Upravljanje podacima u organizaciji

- Upravljanje podacima u organizaciji
- Upravljanje glavnim (osnovnim) podacima
- Glavni (osnovni) podaci

Upravljanje podacima u organizaciji (nastavak)

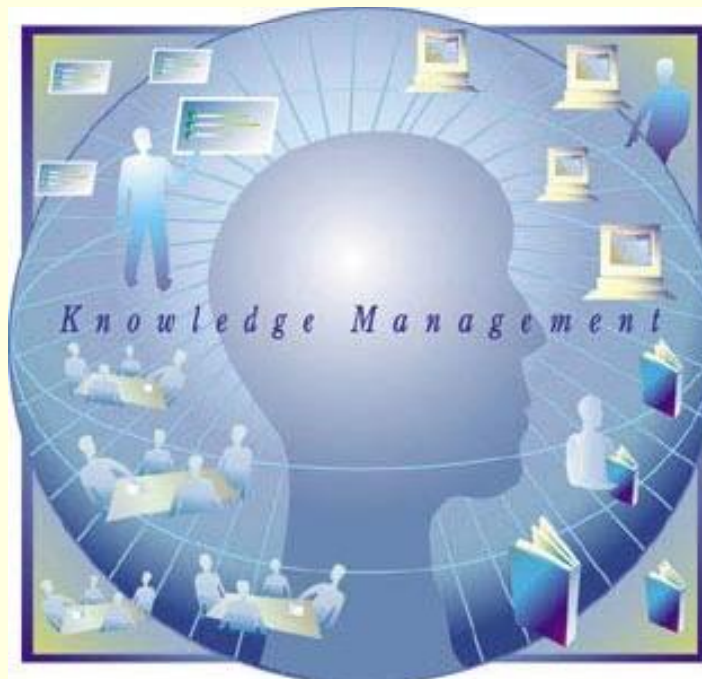


Upravljanje podacima u organizaciji (nastavak)



4.6 Menadžment znanja

- Menadžment znanja
- Znanje
- Intelektualni kapital (ili intelektualna sredstva)

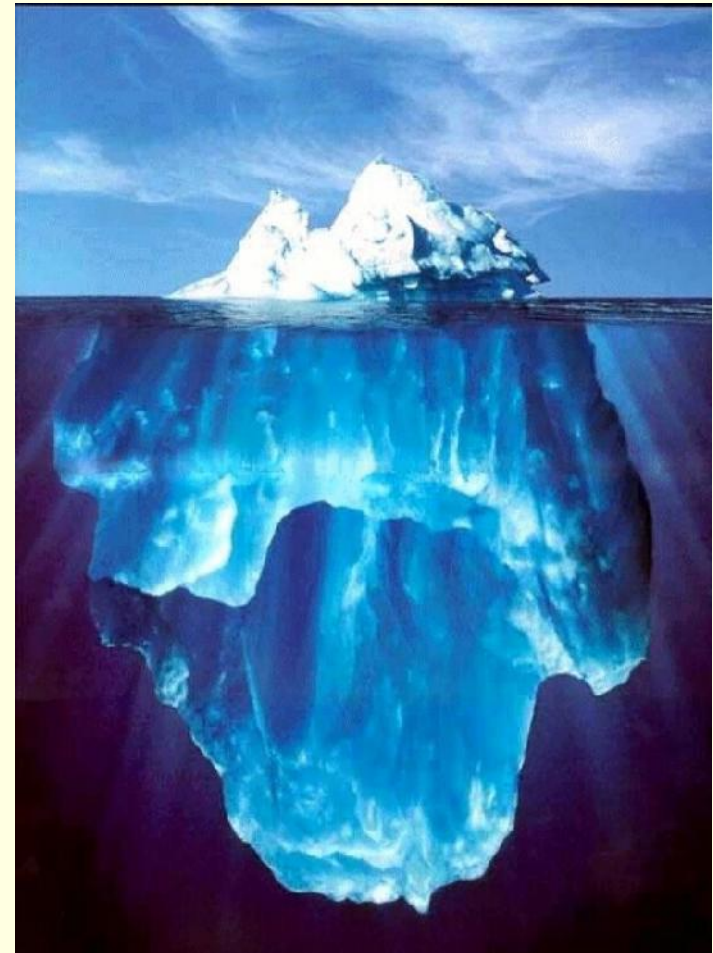


Menadžment znanja (nastavak)

Eksplicitno znanje
(above the waterline)

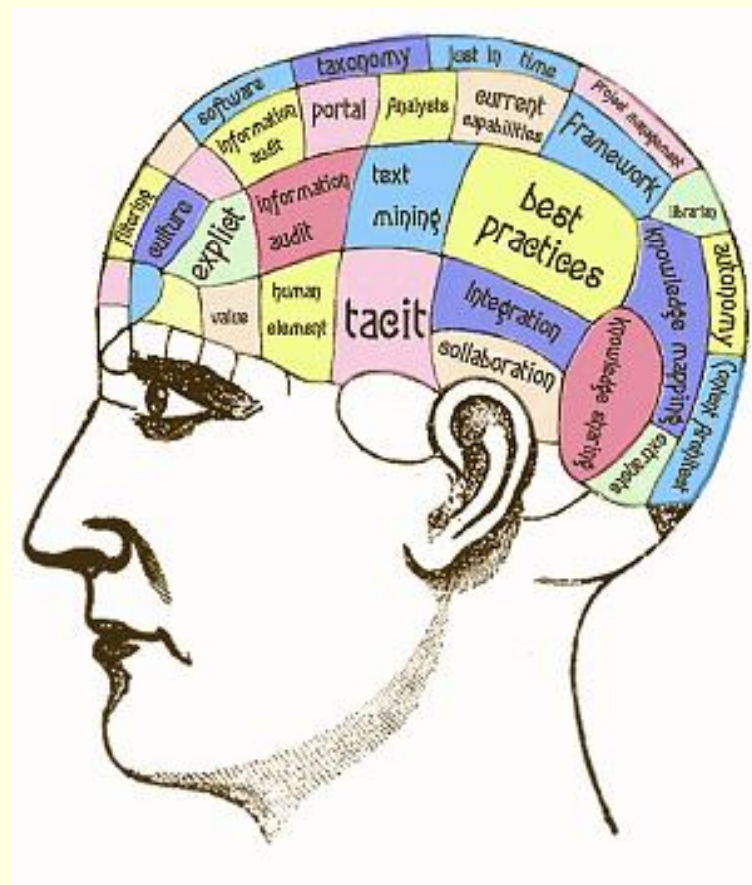


Implicitno znanje
(below the waterline)



Menadžment znanja (nastavak)

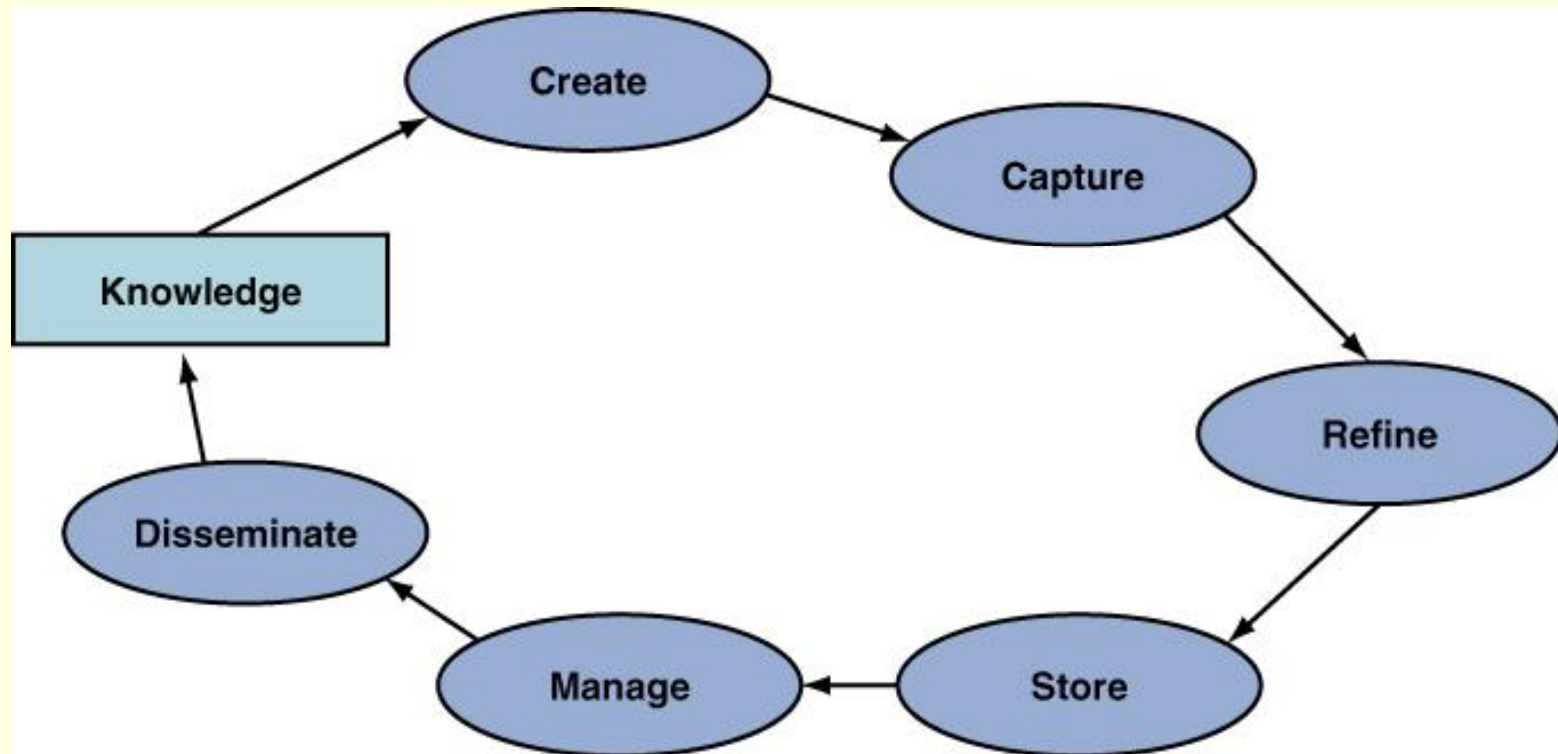
- Sistemi za menadžment znanja
- Najbolje prakse



Ciklus sistema za menadžment znanja

- Stvaranje znanja
- Beleženje znanja
- Pro iš avanje znanja
- uvanje znanja
- Menadžment znanja
- Distribucija znanja

Ciklus sistema za menadžment znanja



Završni slušaj



High CVM passengers
travel in style

