Curs 1

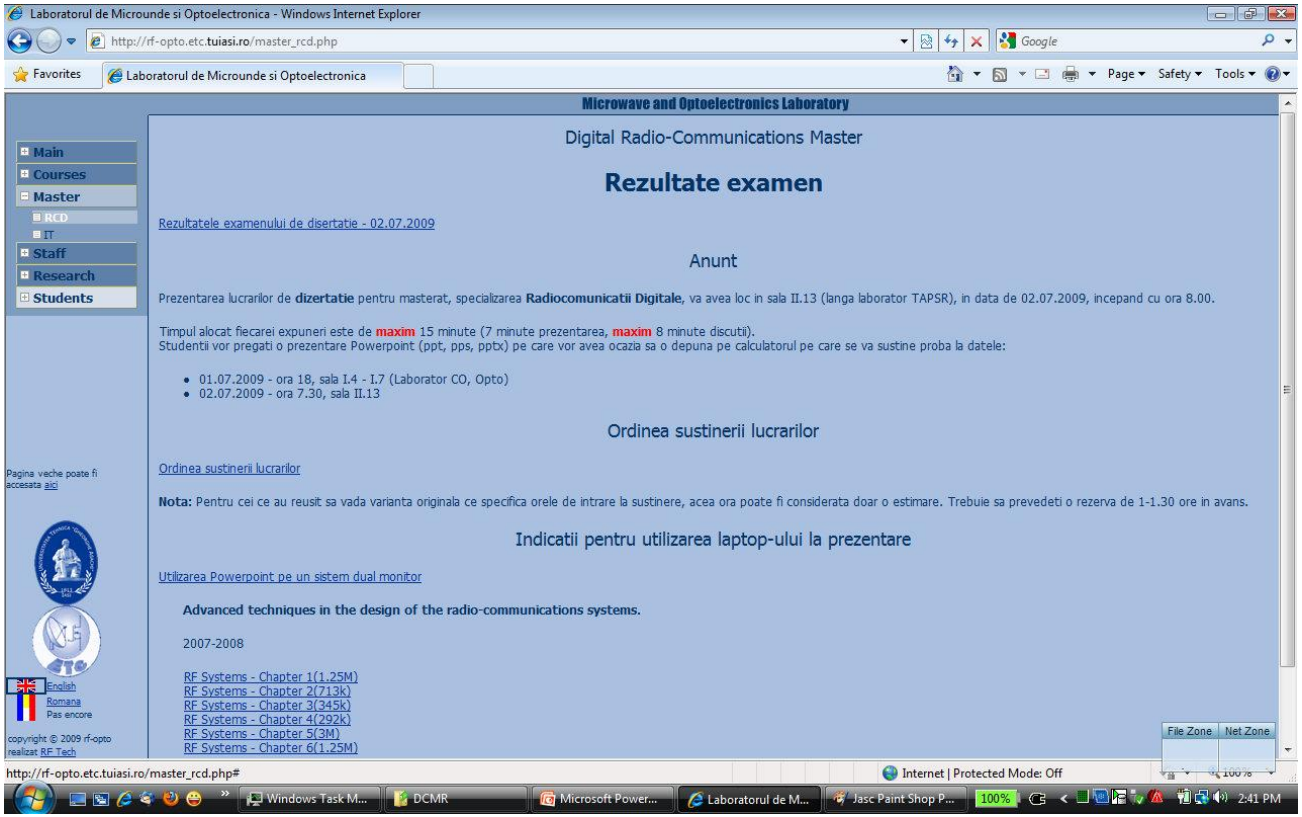
Tehnologii Web (Utilizare Internet)

Disciplina

- **7C** (7 x 2 ore curs)
  - Luni, 10-12, P6, saptamana impara
  - sl. Radu Damian
  - http://staff.etc.tuiasi.ro/rdamian/
- **7L** (7 x 2 ore laborator)
  - Vineri, 16-20, II 13, saptamana para/impara
  - asist. Daniel Matasaru
  - http://www.daniel-matasaru.ro
- **3K** (credite)
  - Colocviu, saptamana 14
  - Prezenta la colocviu 99% (maxim pentru toate disciplinele)

Documentatie

- Laboratorul de microunde si optoelectronica
- http://rf-opto.etc.tuiasi.ro



Fotografii

- rdamian@etc.tuiasi.ro

Studentii care au trimis fotografiile

Grupa: 5402

Nr.	Nume
1	APETRII MARIA

Grupa: 5403

Nr.	Nume
1	ALEXANDRESCU SEBASTIAN

Grupa: 5404

Nr.	Nume
1	APERGHIS MIHAI-ALIN

Grupa: 5405

Nr.	Nume
1	ANGHELUS MARIU

Studentii care inca nu au trimis fotografiile

Grupa: 5304

Nr.	Nume

Grupa: 5402

Nr.	Nume

Grupa: 5403

Nr.	Nume

Grupa: 5404

Nr.	Nume

Fotografii

FLORESCU DAN-CONSTAN
Date:
Grupa 5405 (2008)
Specializarea Tehnologii si sisteme
Marca 3275
Note obtinute
Disciplina Tip Data Descriere Nota Ob
DCMR Dispozitive si circuite de microunde pentru radiocomunic
Nota 19/06/2009 Nota finala 10
Exam 19/06/2009 Examen DCMR 9
Tema 05/06/2009 Proiect DCMR 10

FLORESCU DAN-CONSTA
Date:
Grupa 5405 (2008)
Specializarea Tehnologii si sister
Marca 3275
Detalii
Finantare Buget
Bursa Bursa de Studii
Domiciliu Iasi, judet Iasi
Promovare Promovare Integrala
Credite 60
Media 8.86

Cuprins 1

- **Terminologie Internet (3C)**
  - **Introducere şi istorie a rețelei Internet**
  - **Protocolul TCP/IP (**adrese IP statice si dinamice, rutare**)**
  - **Informare pe Internet** (browsing, căutare)
  - **Comunicații prin intermediul Internet-ului** (email, IM)
  - **Transfer de date** (FTP, rețele P2P).
  - **Comunicații securizate** (coduri, chei).
  - **Configurații de rețea** (peer-to-peer, client-server)
  - **Topologii de rețea** (bus, stea, inel, plasă)
  - **Cablarea rețelei** (tipuri de cabluri)

Cuprins 2

- **Realizare pagini web statice (3C)**
  - **Limbajul HTML** (concepție, principalele marcaje)
  - **Limbajul XHTML** (concepție)
- **Realizare pagini web dinamice/avansate (1C)**
  - **CSS** (principii)
  - **Javascript** (introducere)
- **Indicatii (-C, fara obligatia inscrierii la UI)**
  - **CSS** (avansat)
  - **Javascript** (avansat)
  - **PHP** (avansat)
  - **MySql** (avansat)

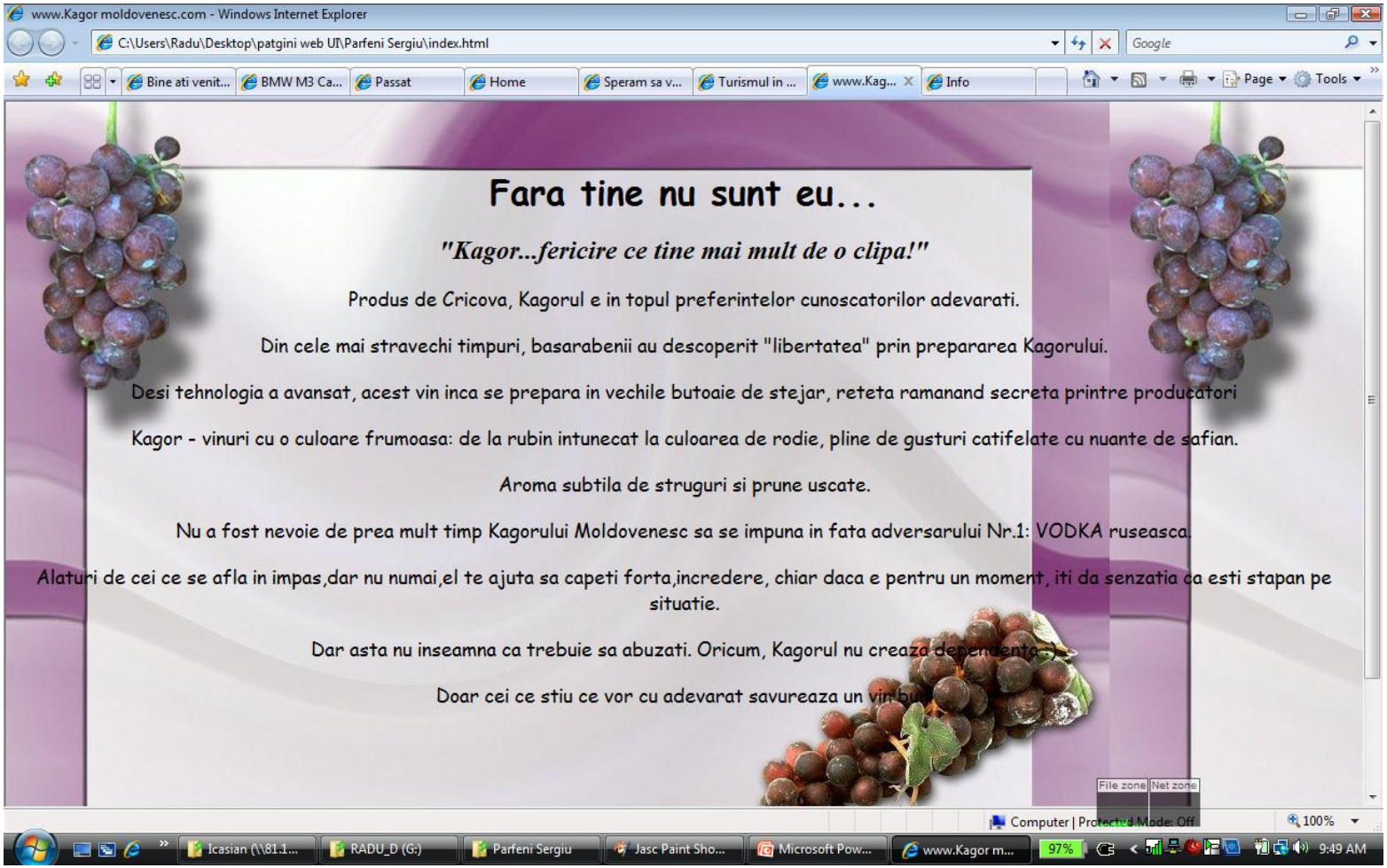
Laborator

- 7 sedinte de 2 ore, la doua saptamani
- 3 lucrari terminologie
- 3 lucrari realizare pagini web
- Colocviu final cu prezentarea paginii web proprie (exemple in slide-urile urmatoare)

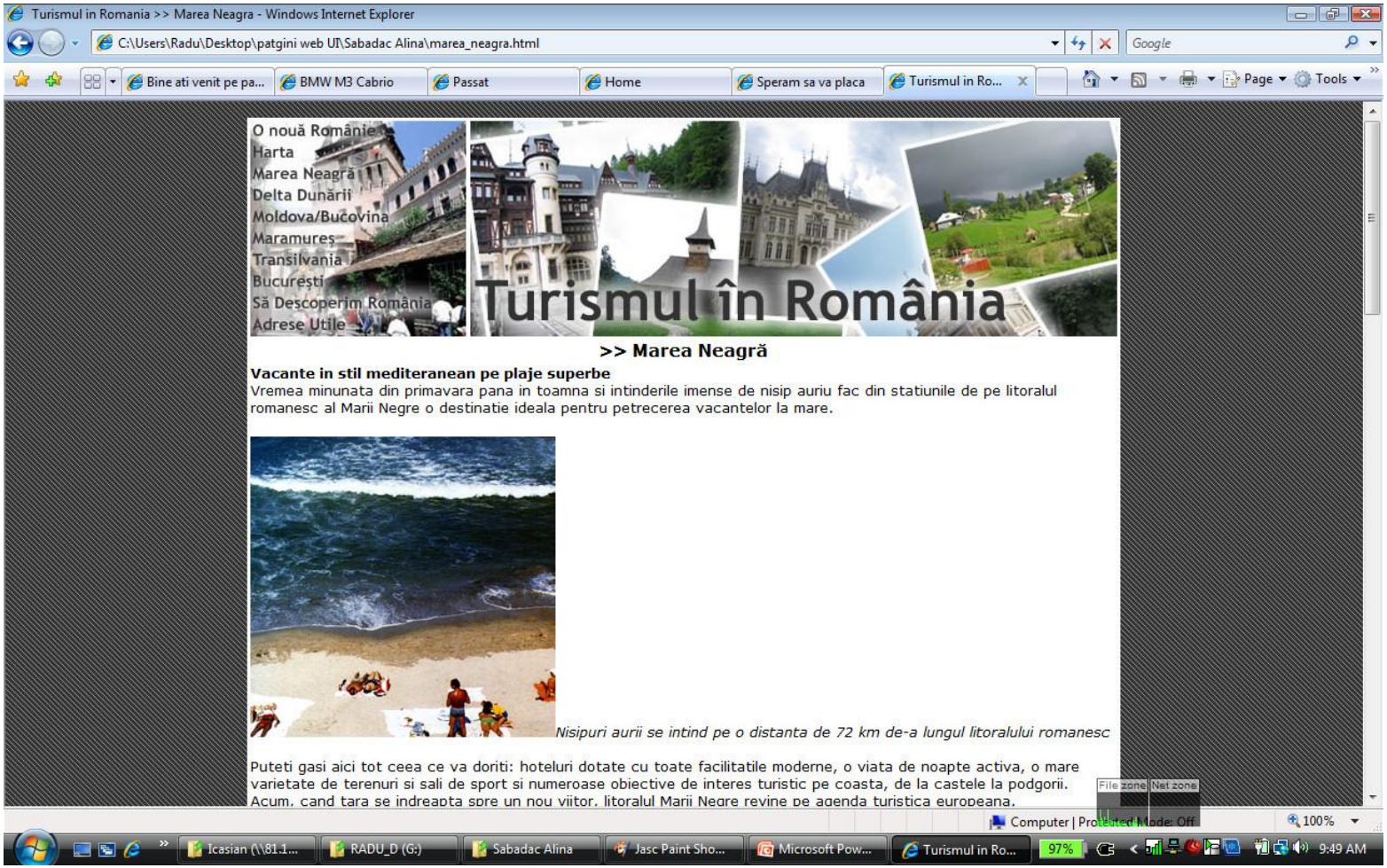
Exemplu 1

Passat - Windows Internet Explorer
C:\Users\Radu\Desktop\patgini web UI\Jalba Robert\passat.html
Bine ati venit pe pagina m...
BMW M3 Cabrio
Passat
VOLKSWAGEN PASSAT CC
Denumit CC, noul model ar putea crea confuzia că este un coupe cabriolet. Însă nu este nici una din cele două. Volkswagen dorind totuşi sa-l numească un coupe cu patru uşi. Acelaşi lucru făcea şi Mercedes la lansarea lui CLS, model care deşi avea patru uşi se distingea printr-o formă laterală asemănătoare cu aceea a unui coupe.
Lungimea automobilul a crescut până la aproape 4,8 metri, cu 30 de mm mai mult decât versiunea standard, pentru o amplificare a senzaţiei de coupe şi un spaţiu interior mărit. Dacă în exterior modificările sunt majore, cu o grilă faţă schimbată, faruri modificate şi blocuri optice spate voluminoase şi fluide, în interior ambianţa de la actualul Passat a fost considerată suficient de elegantă şi sportivă pentru a fi preluată aproape integral de noul model.
Done
Computer | Protected Mode: Off
100%
9:46 AM

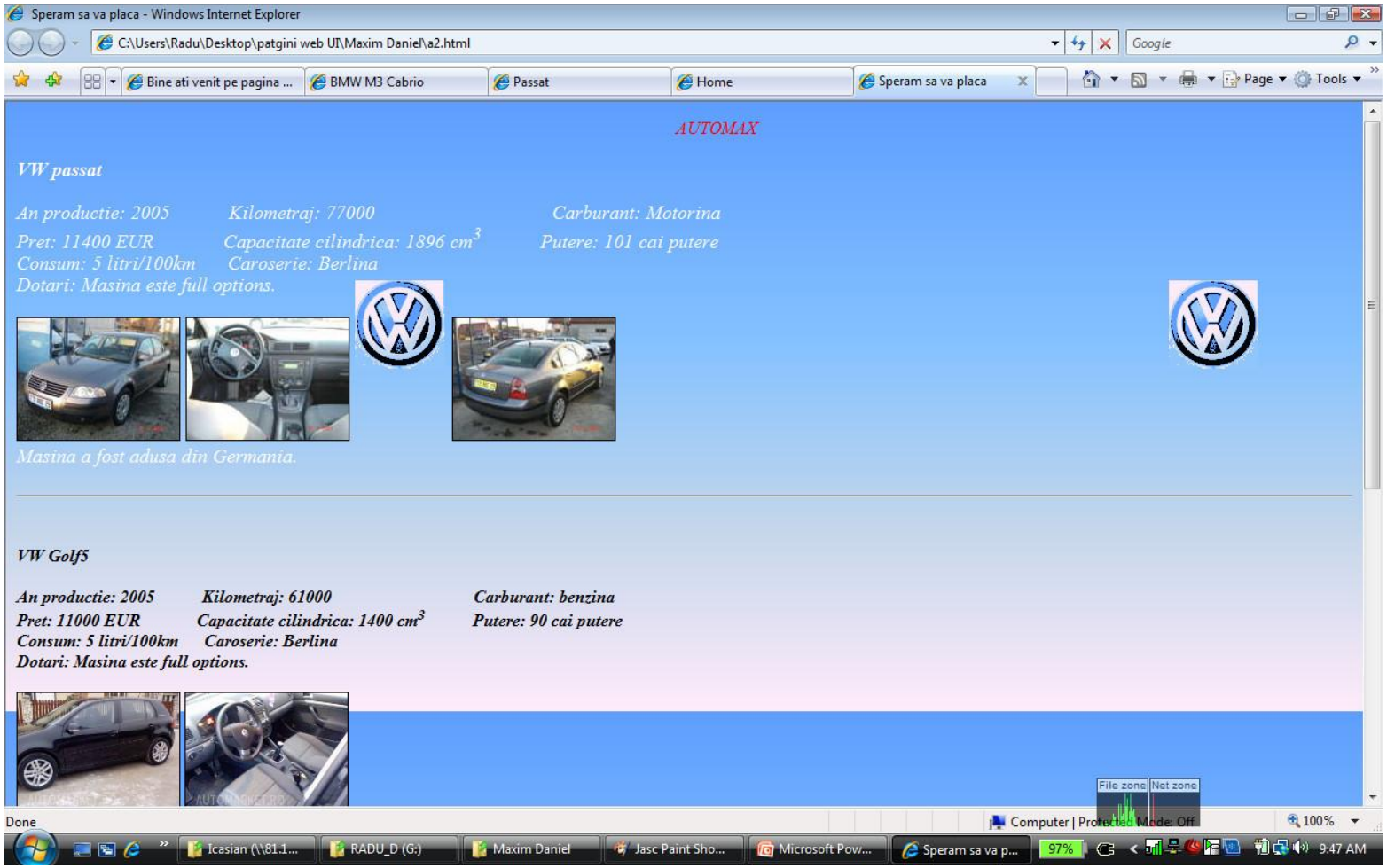
Exemplu 2


www.Kagor moldovenesc.com - Windows Internet Explorer
C:\Users\Radu\Desktop\patgini web UI\Parfeni Sergiu\index.html
Fara tine nu sunt eu...
"Kagor...fericire ce tine mai mult de o clipa!"
Produs de Cricova, Kagorul e in topul preferintelor cunoscatorilor adevarati.
Din cele mai stravechi timpuri, basarabenii au descoperit "libertatea" prin prepararea Kagorului.
Desi tehnologia a avansat, acest vin inca se prepara in vechile butoaie de stejar, reteta ramanand secreta printre producatori
Kagor - vinuri cu o culoare frumoasa: de la rubin intunecat la culoarea de rodie, pline de gusturi catifelate cu nuante de safian.
Aroma subtila de struguri si prune uscate.
Nu a fost nevoie de prea mult timp Kagorului Moldovenesc sa se impuna in fata adversarului Nr.1: VODKA ruseasca.
Alaturi de cei ce se afla in impas,dar nu numai,el te ajuta sa capeti forta,incredere, chiar daca e pentru un moment, iti da senzatia ca esti stapan pe situatie.
Dar asta nu inseamna ca trebuie sa abuzati. Oricum, Kagorul nu creaza dependenta :)
Doar cei ce stiu ce vor cu adevarat savureaza un vin bun.
Computer | Protected Mode: Off
100%
9:49 AM

Exemplu 3


Turismul in Romania >> Marea Neagra - Windows Internet Explorer
C:\Users\Radu\Desktop\patgini web UI\Sabadac Alina\marea_neagra.html
O nouă Românie
Harta
Marea Neagră
Delta Dunării
Moldova/Bucovina
Maramureș
Transilvania
București
Să Descoperim România
Adrese Utile
Turismul în România
>> Marea Neagră
Vacante in stil mediteranean pe plaje superbe
Vremea minunata din primavara pana in toamna si intinderile imense de nisip auriu fac din statiunile de pe litoralul romanesc al Marii Negre o destinatie ideala pentru petrecerea vacantelor la mare.
Nisipuri aurii se intind pe o distanta de 72 km de-a lungul litoralului romanesc
Puteti gasi aici tot ceea ce va doriti: hoteluri dotate cu toate facilitatile moderne, o viata de noapte activa, o mare varietate de terenuri si sali de sport si numeroase obiective de interes turistic pe coasta, de la castele la podgorii.
Acum, cand tara se indreapta spre un nou viitor, litoralul Marii Negre revine pe agenda turistica europeana.

Exemplu 4


Speram sa va placa - Windows Internet Explorer
C:\Users\Radu\Desktop\patgini web UI\Maxim Daniel\a2.html
Bine ati venit pe pagina ...
BMW M3 Cabrio
Passat
Home
Speram sa va placa
AUTOMAX
VW passat
An productie: 2005
Kilometraj: 77000
Carburant: Motorina
Pret: 11400 EUR
Capacitate cilindrica: 1896 cm3
Putere: 101 cai putere
Consum: 5 litri/100km
Caroserie: Berlina
Dotari: Masina este full options.
Masina a fost adusa din Germania.
VW Golf5
An productie: 2005
Kilometraj: 61000
Carburant: benzina
Pret: 11000 EUR
Capacitate cilindrica: 1400 cm3
Putere: 90 cai putere
Consum: 5 litri/100km
Caroserie: Berlina
Dotari: Masina este full options.
Done
Computer | Protected Mode: Off
100%
9:47 AM

Impresionant?

- Intel® Itanium® processors (codenamed Tukwila)
- 2 miliarde tranzistoare pe CPU
- >3 miliarde operatii pe secunda
- **Nivel redus de complexitate al operatiilor elementare**

Definitii

- **Internet**
  - O **retea** globala de comunicatii intre calculatoare **si alte dispozitive**, conectate intre ele prin intermediul protocolului TCP/IP
  - Nu este o retea proprietara
  - Nu este dedicata exclusiv WWW
- **World Wide Web**
  - Sistem de informatii grafic, interactiv, proiectat pentru a functiona pe orice platforma fizica, care functioneaza prin Internet

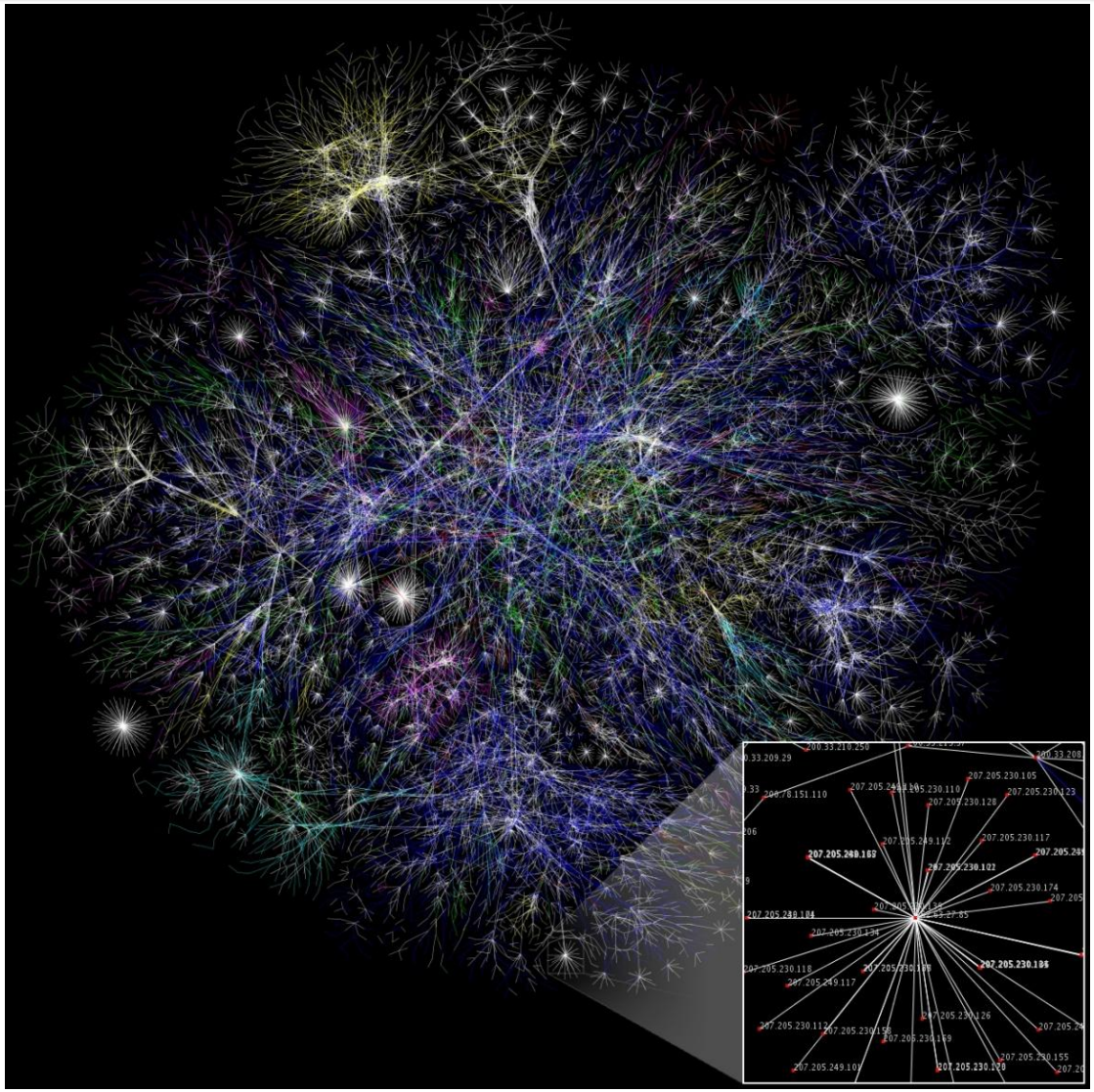
Istoric Internet

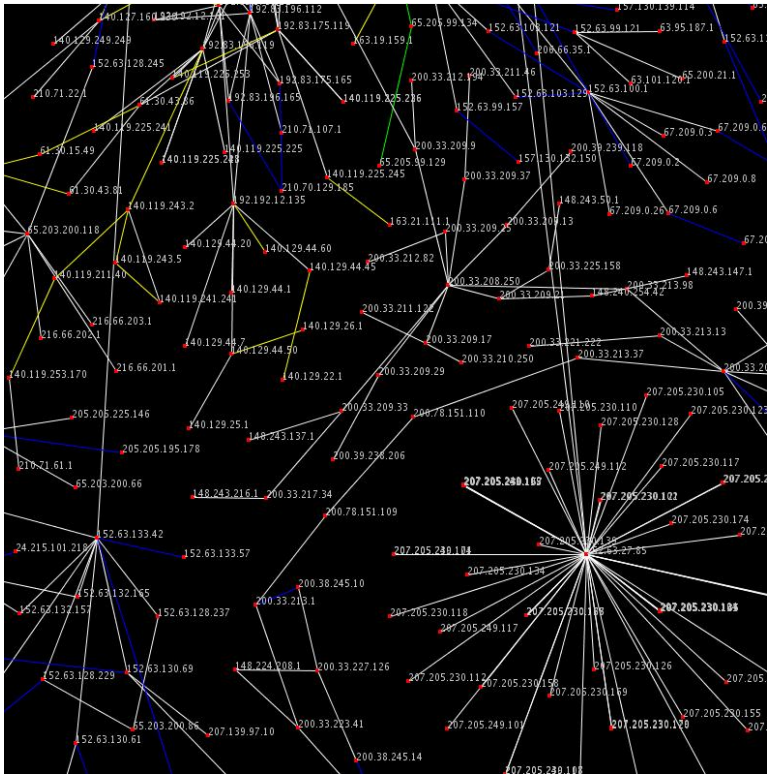
- ARPANET 1969
- Proiect experimental al US Department of Defense
- DARPA – Defense Advanced Research Projects Agency
- Conectarea cercetatorilor la resurse comune (supercalculatoare, baze de date)
- Raspandire mai intai in SUA apoi in intreaga lume (Romania 1993)
- TCP/IP – Transport Control Protocol / Internet Protocol – TCP/IP v4 - 1983

Istoric WWW

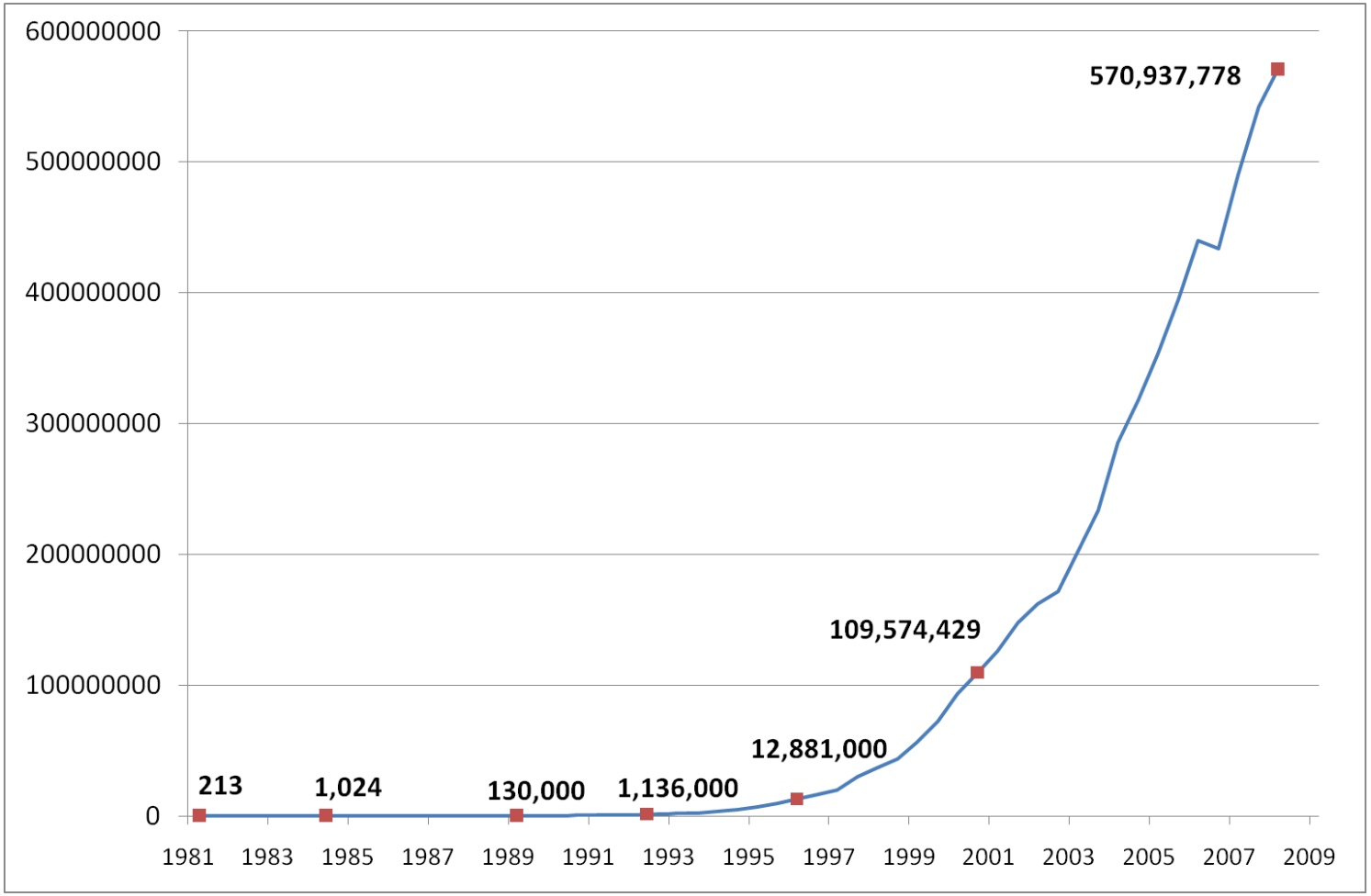
- 1980, CERN, Centre Europeen de Recherche Nucleaire,
- Tim Berners Lee
- Metoda de schimb facil de informatii intre cercetatori
- 1989 – propunere de standardizare pentru HTTP
- HTTP – Hyper Text Transfer Protocol
- 1993 – Mosaic, primul browser grafic, NCSA – National Center for Supercomputing Applications

World Wide Web

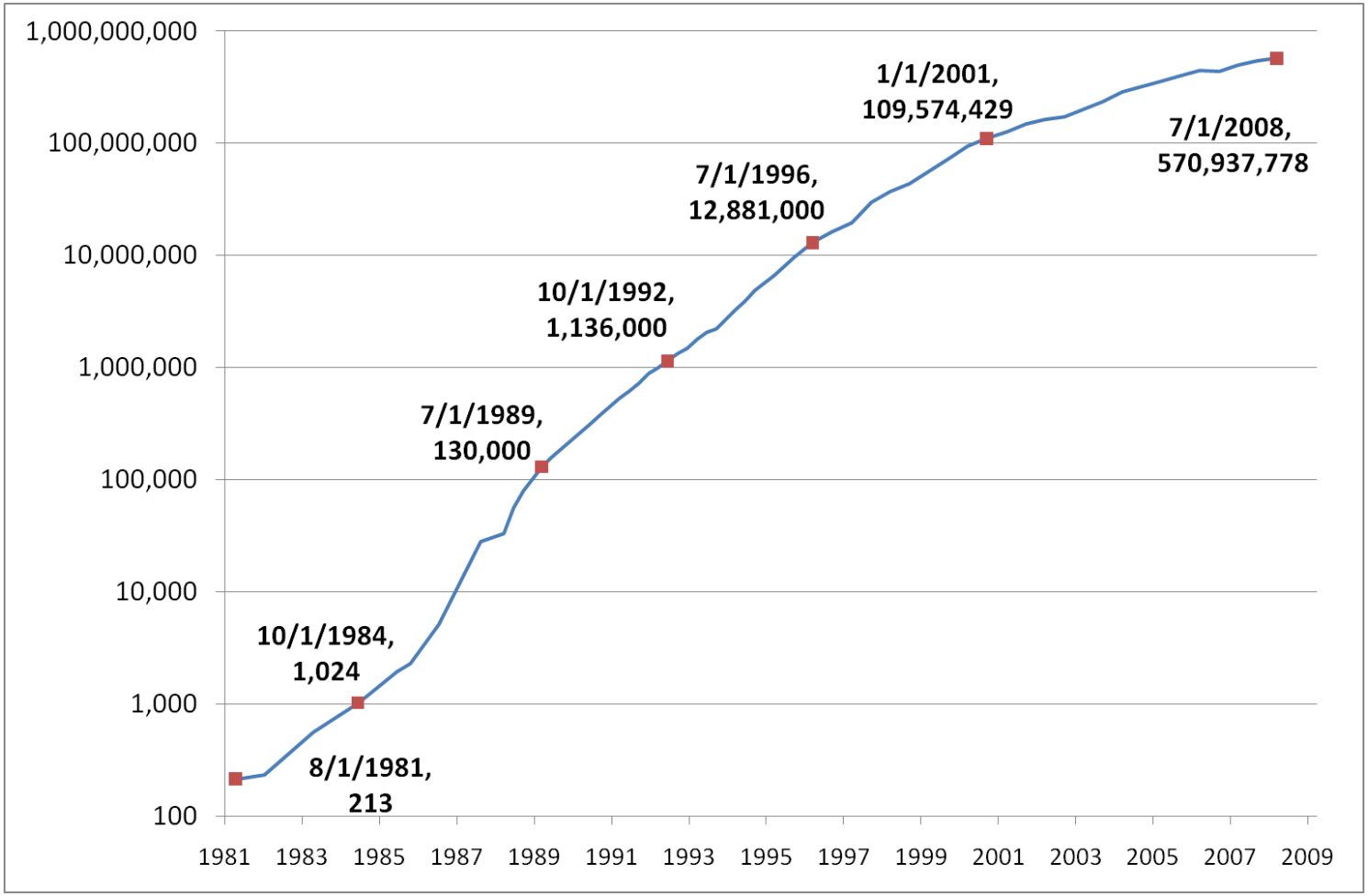




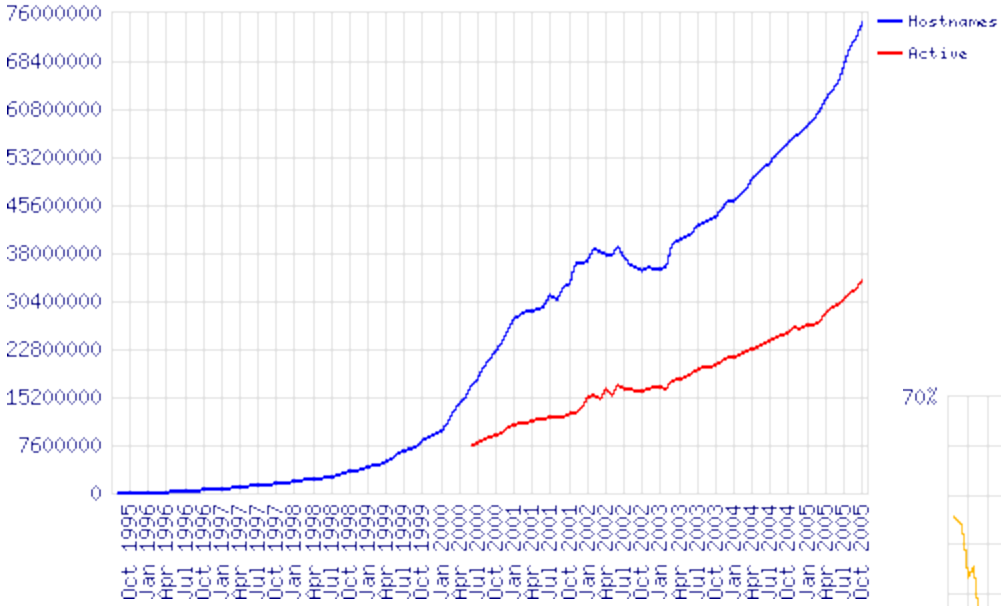
Numar dispozitive conectate



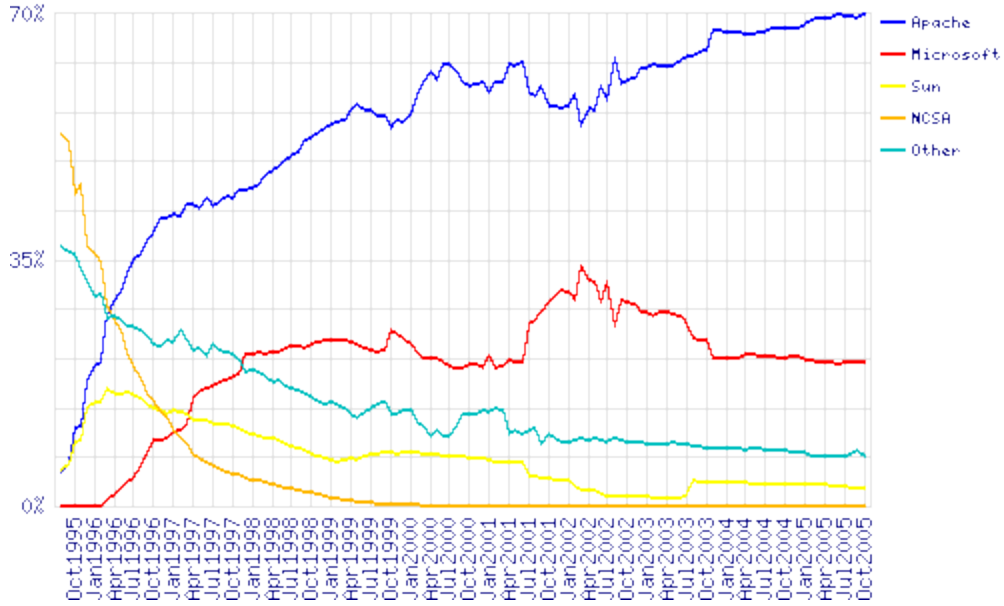
Numar dispozitive conectate



Numar de server-e

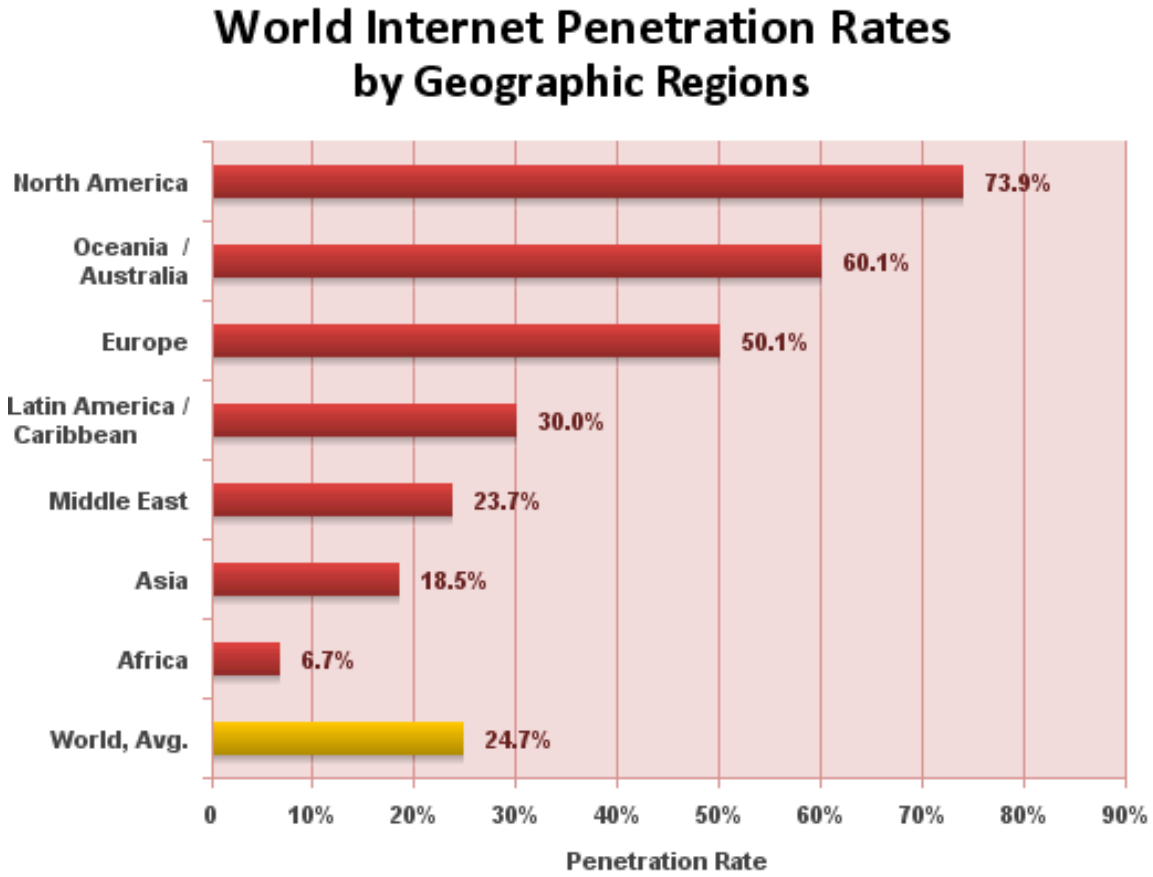


Numar de server-e existente / active



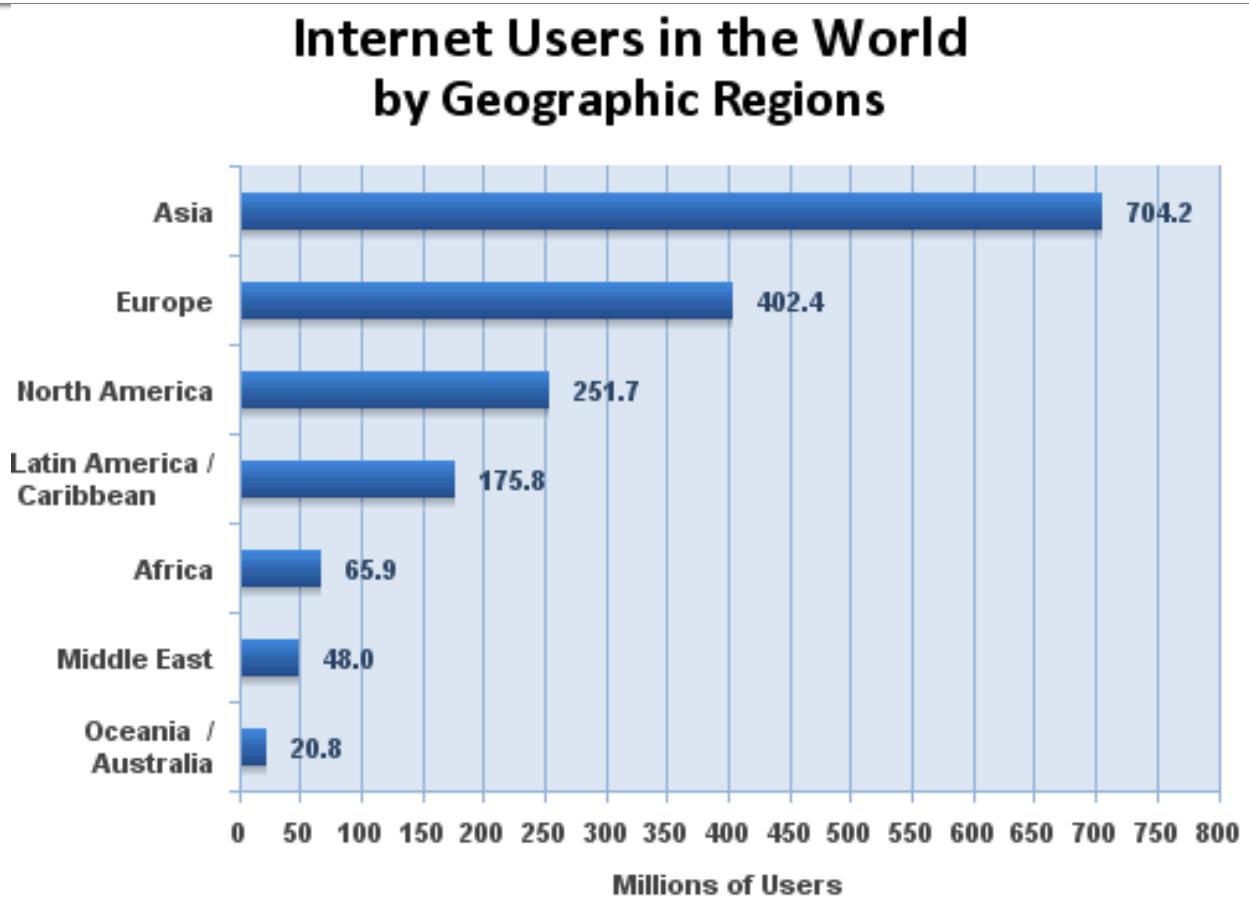
Aplicatia de server web activa [%]

Utilizatori Internet [% din total populatie]



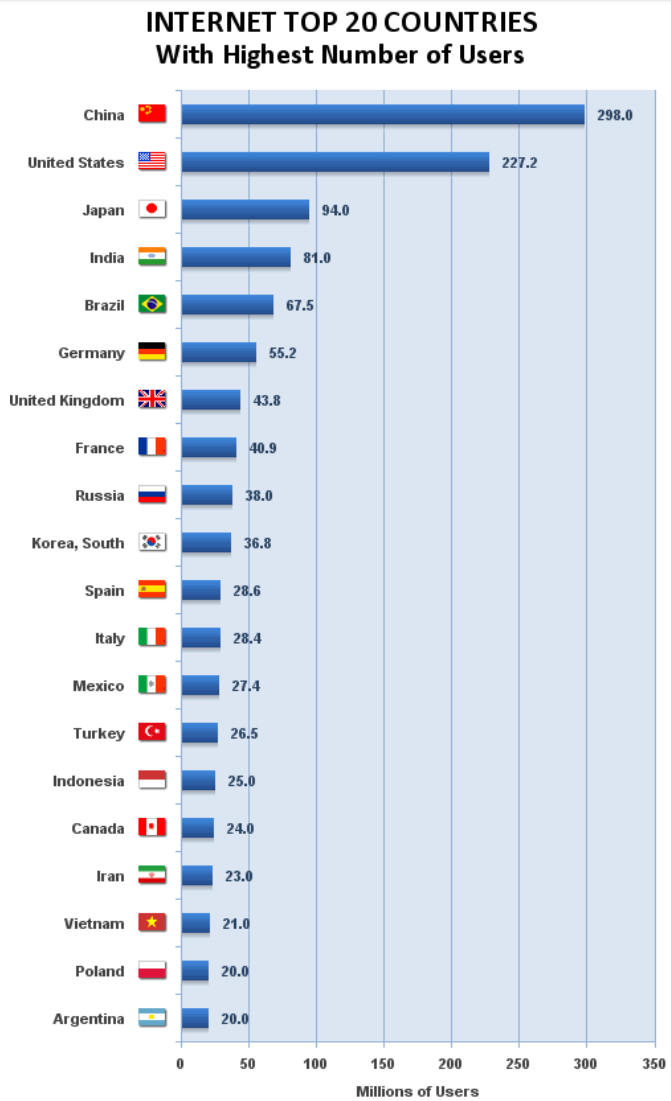
Source: Internet World Stats - www.internetworldststs.com/stats.htm
Penetration Rates are based on a world population of 6,767,805,208 and 1,668,870,408 estimated Internet users for June 30, 2009.
Copyright © 2009, Miniwatts Marketing Group

Numar de utilizatori in lume

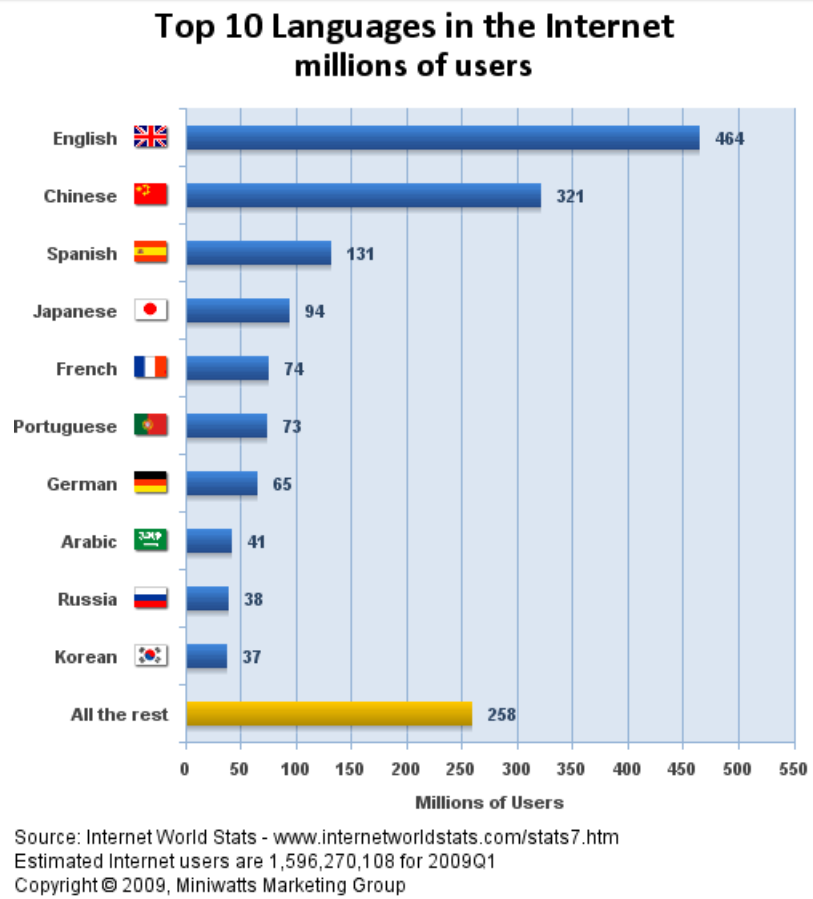


Source: Internet World Stats - www.internetworldstats.com/stats.htm
Estimated Internet users are 1,668,870,408 for June 30, 2009
Copyright © 2009, Miniwatts Marketing Group

Tara / limba vorbita pe Internet

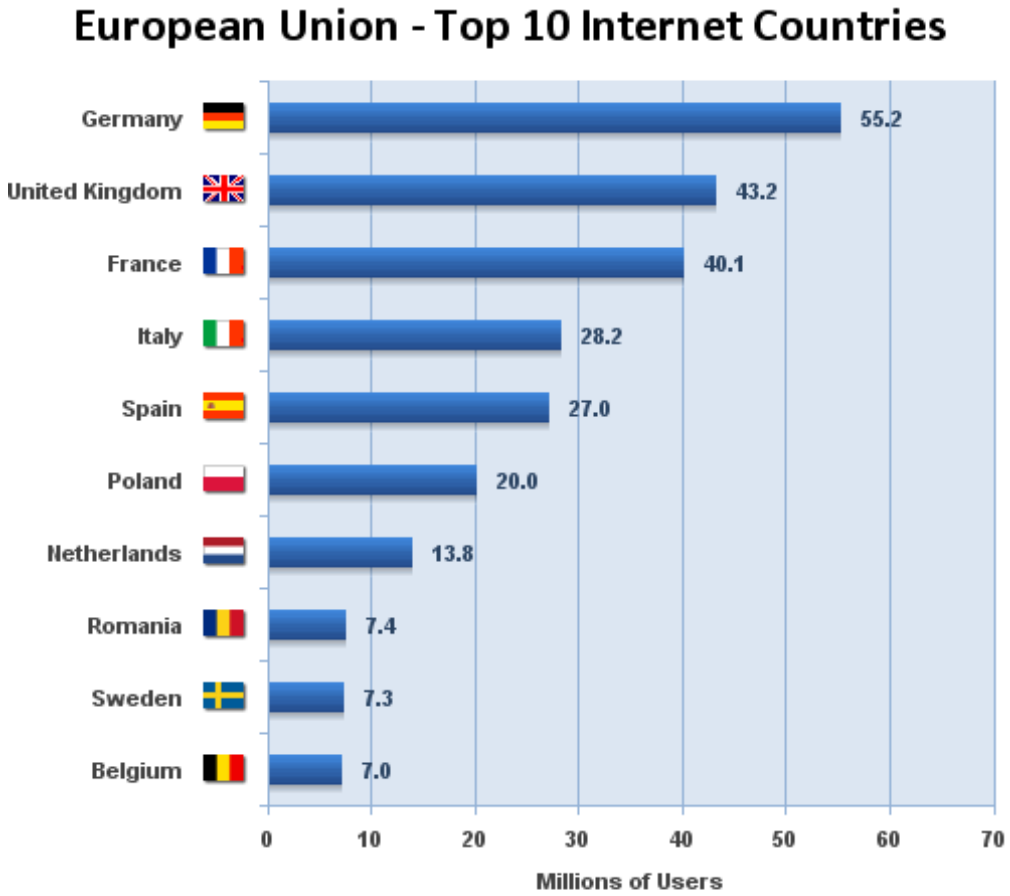


Source: Internet World Stats - www.internetworldstats.com/top20.htm



- Limba utilizata si tara utilizatorilor de Internet

Utilizatori Internet in EU

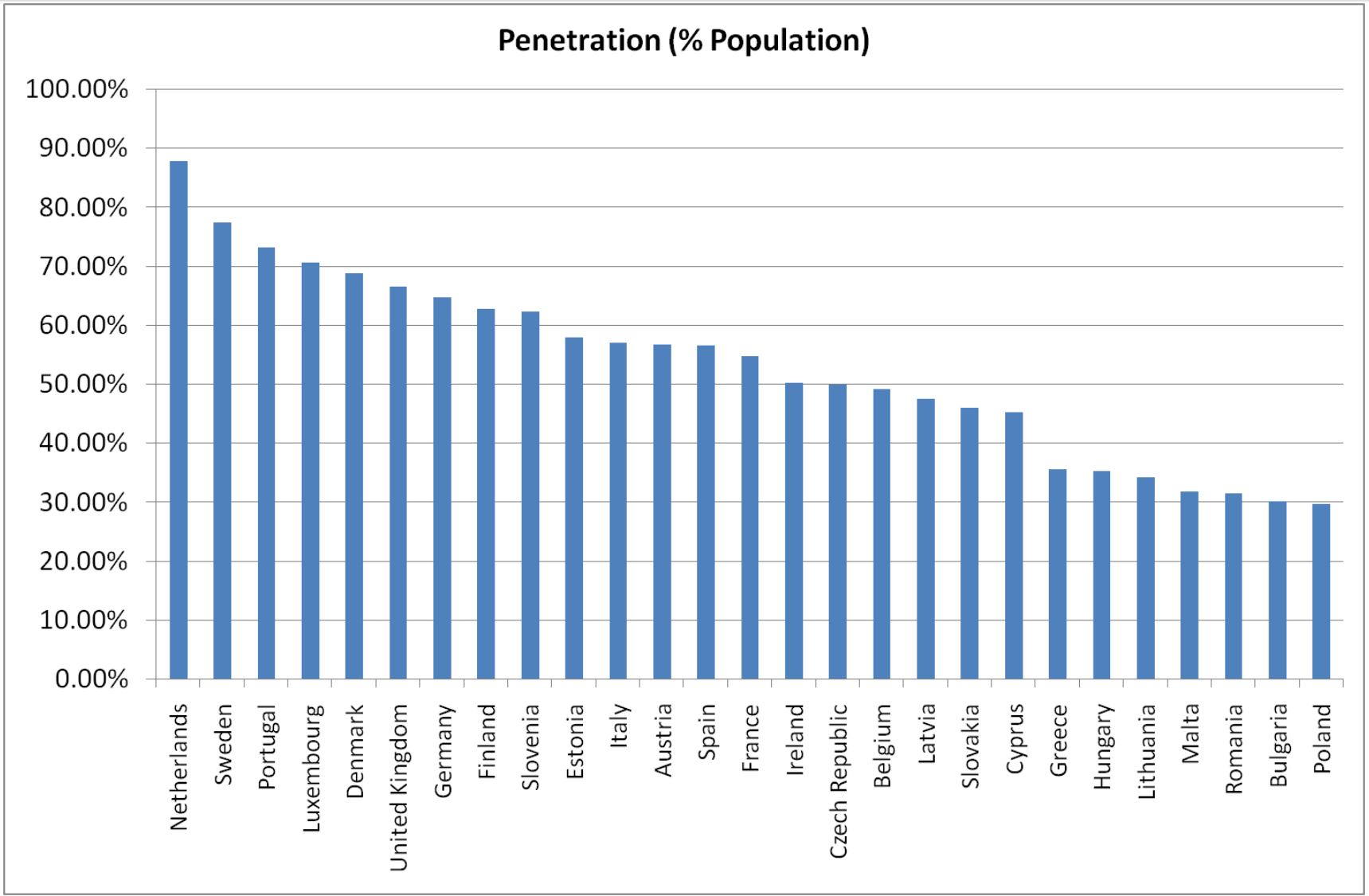


Source: Internet World Stats - www.internetworldstats.com
297,001,040 estimated EU Internet Users for December 2008
Copyright © 2009, Miniwatts Marketing Group

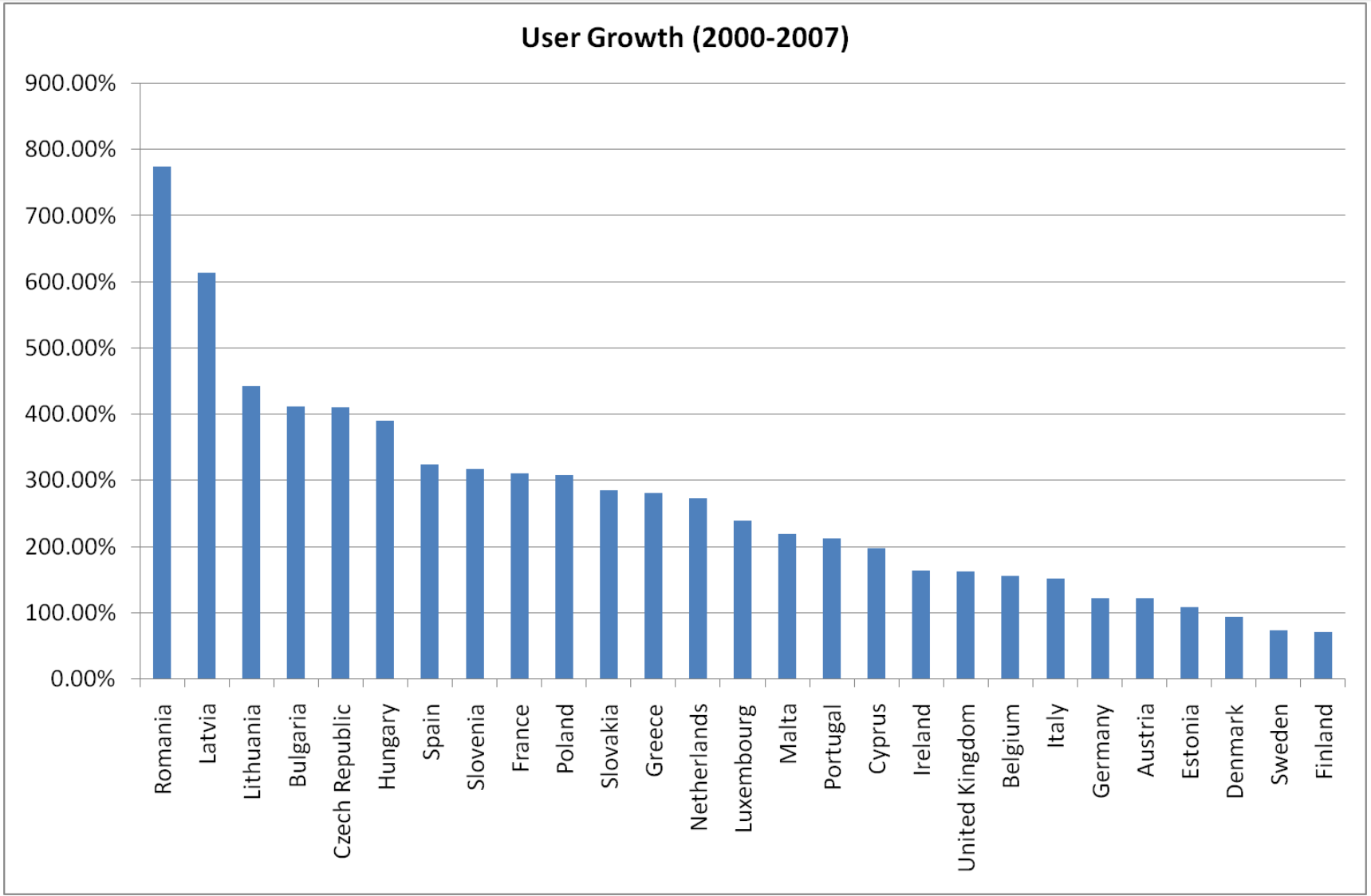
Utilizare in Uniunea Europeana

EUROPEAN UNION	Population (2009 Est.)	Internet Users, Latest Data	Penetration (% Population)	User Growth (2000-2009)	Users % Table
	Internet Users in the European Union				
Austria	8,210,281	**5,601,700**	68.2 %	166.7 %	1.8 %
Belgium	10,414,336	**7,006,400**	67.3 %	250.3 %	2.3 %
Bulgaria	7,204,687	**2,368,000**	32.9 %	450.7 %	0.8 %
Cyprus	1,084,748	**324,880**	29.9 %	170.7 %	0.1 %
Czech Republic	10,211,904	**4,991,300**	48.9 %	399.1 %	1.6 %
Denmark	5,500,510	**4,629,600**	84.2 %	137.4 %	1.5 %
Estonia	1,299,371	**854,600**	65.8 %	133.1 %	0.3 %
Finland	5,250,275	**4,353,142**	82.9 %	125.9 %	1.4 %
France	62,150,775	**42,050,465**	67.7 %	394.7 %	13.6 %
Germany	82,329,758	**55,221,183**	67.1 %	130.1 %	17.9 %
Greece	10,737,428	**4,932,495**	45.9 %	393.2 %	1.6 %
Hungary	9,905,596	**5,500,000**	55.5 %	669.2 %	1.8 %
Ireland	4,203,200	**2,830,100**	67.3 %	261.0 %	0.9 %
Italy	58,126,212	**29,140,144**	50.1 %	120.8 %	9.4 %
Latvia	2,231,503	**1,324,800**	59.4 %	783.2 %	0.4 %
Lithuania	3,555,179	**2,103,471**	59.2 %	834.9 %	0.7 %
Luxembourg	491,775	**363,900**	74.0 %	263.9 %	0.1 %
Malta	405,165	**200,200**	49.4 %	400.5 %	0.1 %
Netherlands	16,715,999	**14,272,700**	85.4 %	266.0 %	4.6 %
Poland	38,482,919	**20,020,362**	52.0 %	615.0 %	6.5 %
Portugal	10,707,924	**4,450,800**	41.6 %	78.0 %	1.4 %
Romania	22,215,421	**7,430,000**	33.4 %	828.8 %	2.4 %
Slovakia	5,463,046	**3,018,400**	55.3 %	364.4 %	1.0 %
Slovenia	2,005,692	**1,300,000**	64.8 %	333.3 %	0.4 %
Spain	40,525,002	**28,628,959**	70.6 %	431.4 %	9.3 %
Sweden	9,059,651	**7,295,200**	80.5 %	80.5 %	2.4 %
United Kingdom	61,113,205	**48,755,000**	79.8 %	216.6 %	15.8 %
European Union	**489,601,562**	**308,967,801**	**63.1 %**	**227.3 %**	**100.0 %**

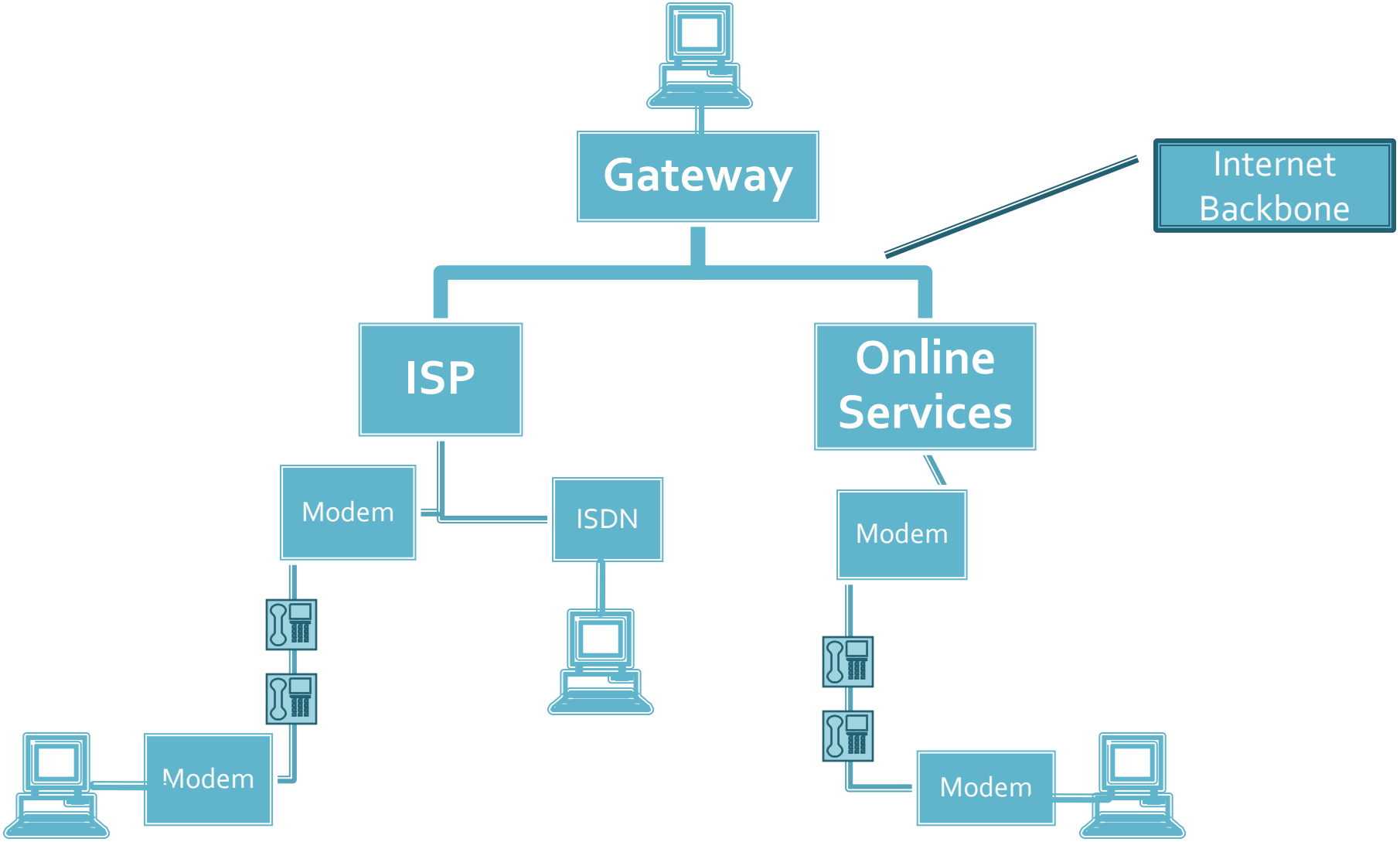
Rata de penetrare in EU



Crestere 2000-2007



Acces Internet

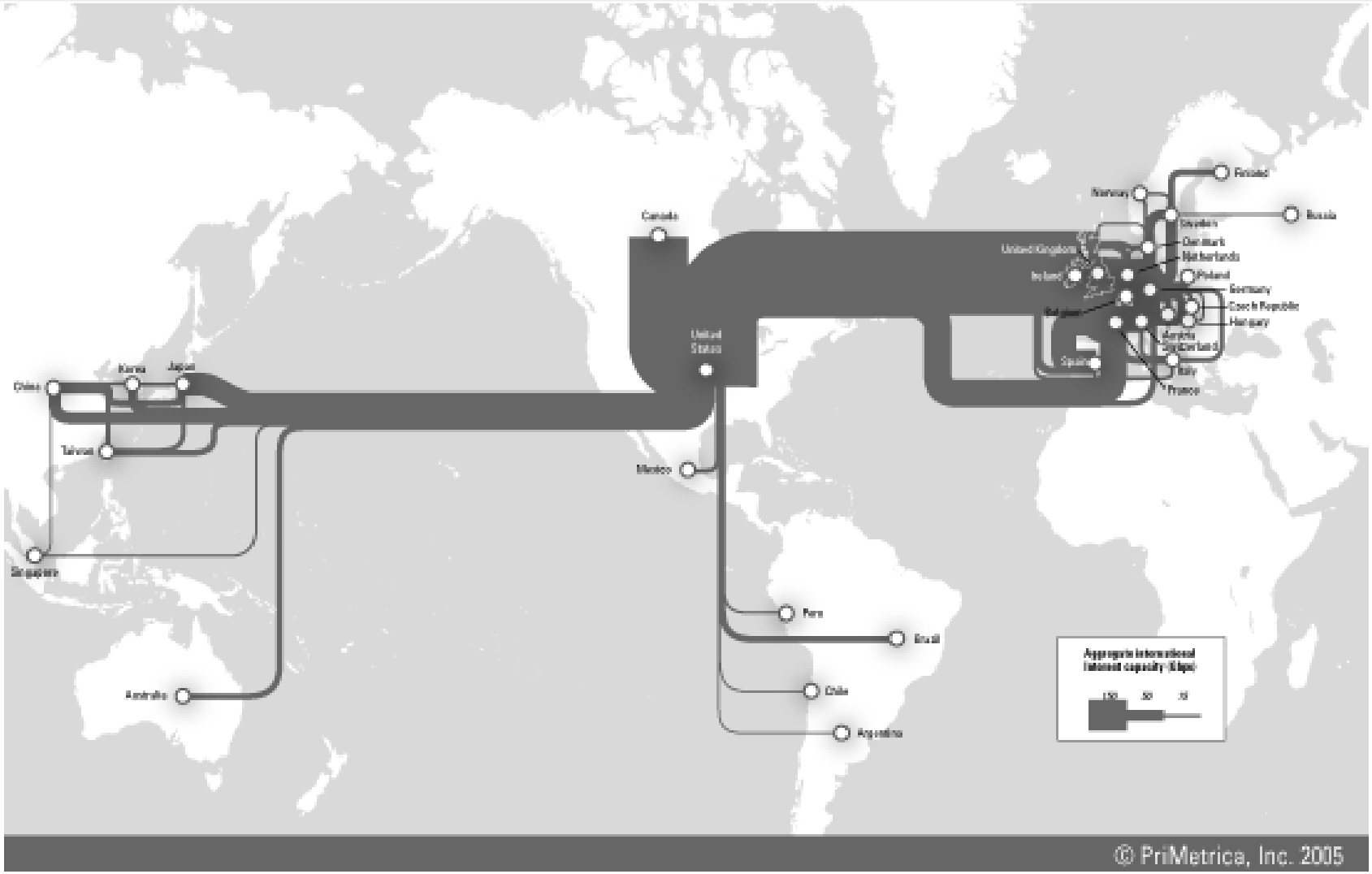


Acces Internet

- Gateway dedicat (Roedu)
- Servicii online (Compuserve, America Online, MSN) – conectare simpla cu plata
  - GSM – Orange, Vodaphone, Cosmote (?)
- ISP – Internet Service provider (UPC, RDS, Romtelecom etc)
- Intenet Backbone – Magistrala Internet – termen generic pentru a desemna o multitudine de linii de comunicatii de mare viteza intre diverse puncte de pe glob

Internet Backbone

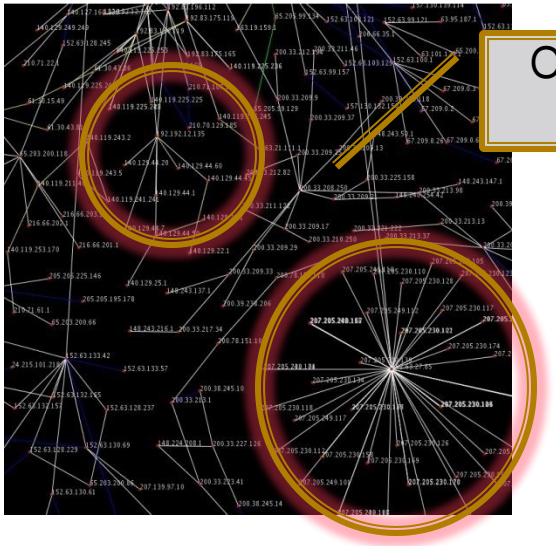
Internet Backbone



Adresa IP

- **IP = Internet Protocol**
- Adresa Internet Protocol (prescurtat "IP")
- Cod numeric utilizat de IP pentru identificarea unica a calculatoarelor sau dispozitivelor pe Internet
- O succesiune de 4 numere intre 0 si 255 (4 octeti, $256 = 2^8 = 8$ biti) (IPv4 – versiunea 4)
- Combinatii posibile: 4.294.967.296
- 81.180.222.18 = 01010001.10110100.11011110.00010010

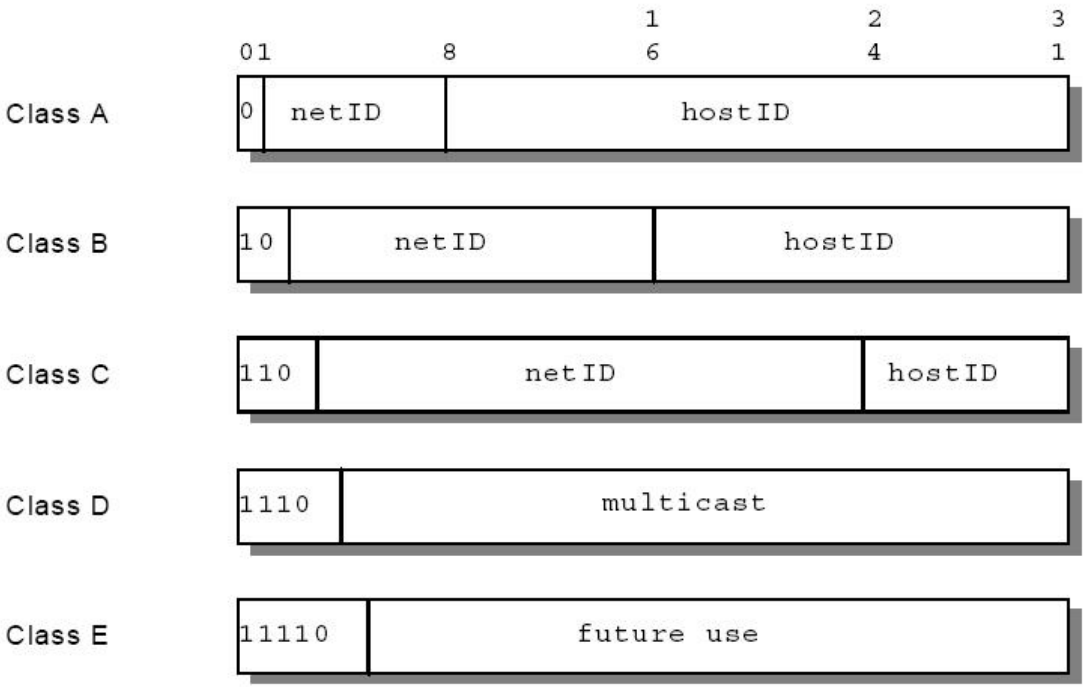
Adresa IP



Organizare - RETELE

Adrese IP: Net | Host

Total: 32 biti = 4 octeti

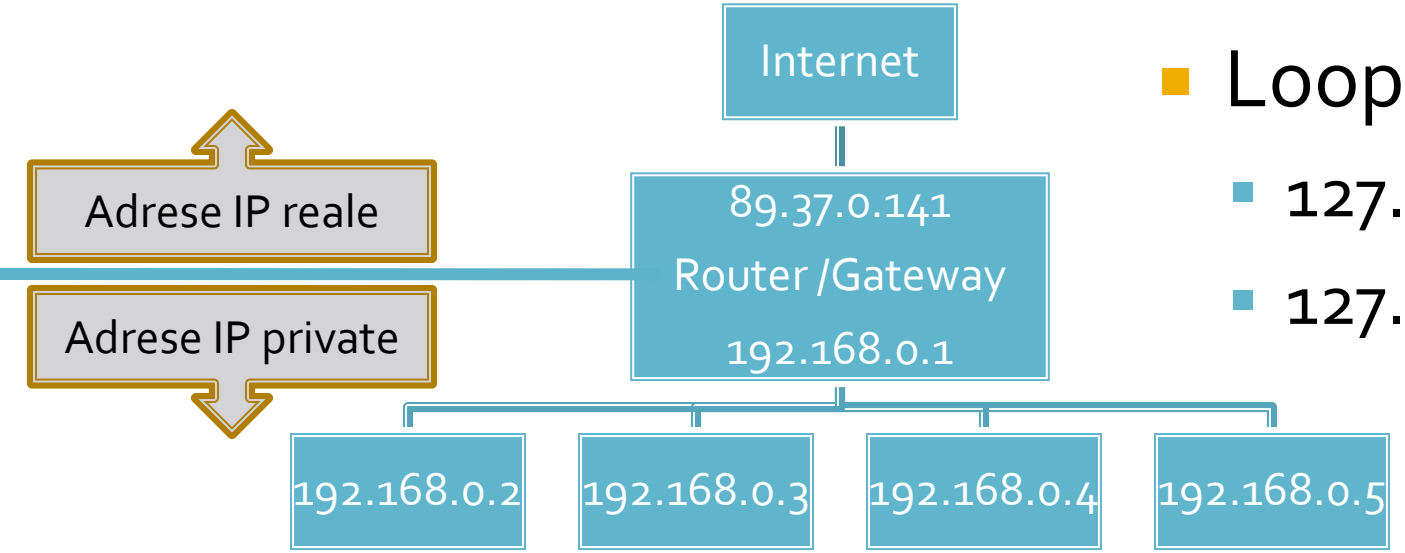


Adresa IP

- Reala (“rutabila”)
  - vizibila din intregul Internet
  - necesara pentru dispozitivele care **ofera** date
- Privata (“nerutabila”, interna)
  - invizibila din exterior
  - suficienta pentru dispozitivele care **primesc** date
  - necesita un dispozitiv cu adresa reala (gateway, router) pentru acces la exterior

Adresa IP

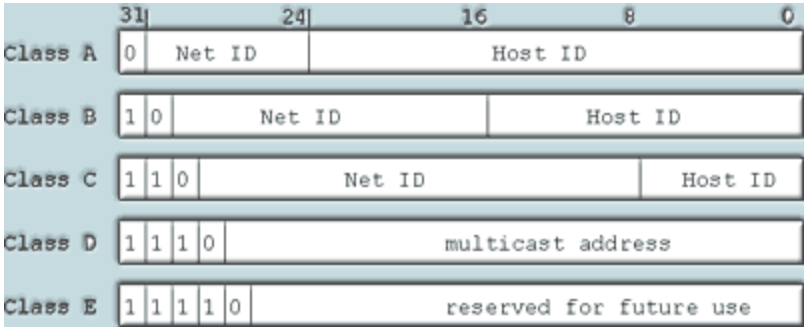
- Clase de adrese private rezervate
  - 10.x.x.x – 1 retea clasa A
  - 172.16.x.x – 172.31.x.x – 16 retele clasa B
  - 192.168.0.x – 192.168.255.x – 256 retele clasa C



- Loopback
  - 127.0.0.0/8
  - 127.0.0.1 = localhost

Adresa IP

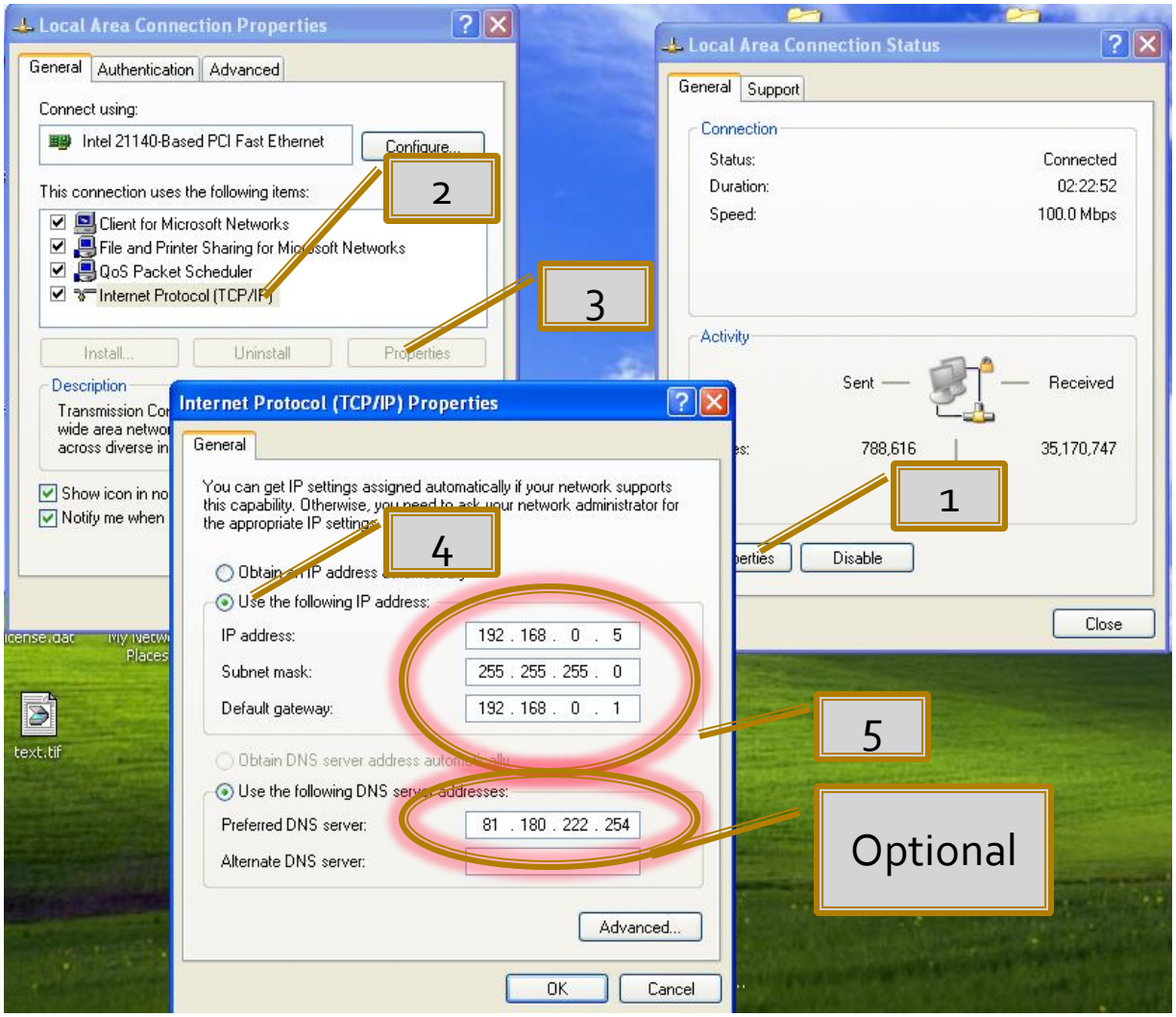
- Adrese IP:
  - Clasa A – 126 retele a 16.777.214 noduri
  - Clasa B – 16.384 retele a 65.534 noduri
  - Clasa C – 2.097.152 retele a 254 noduri
  - Clasa D – multicast
  - Clasa E – rezervate



Configurare TCP/IP

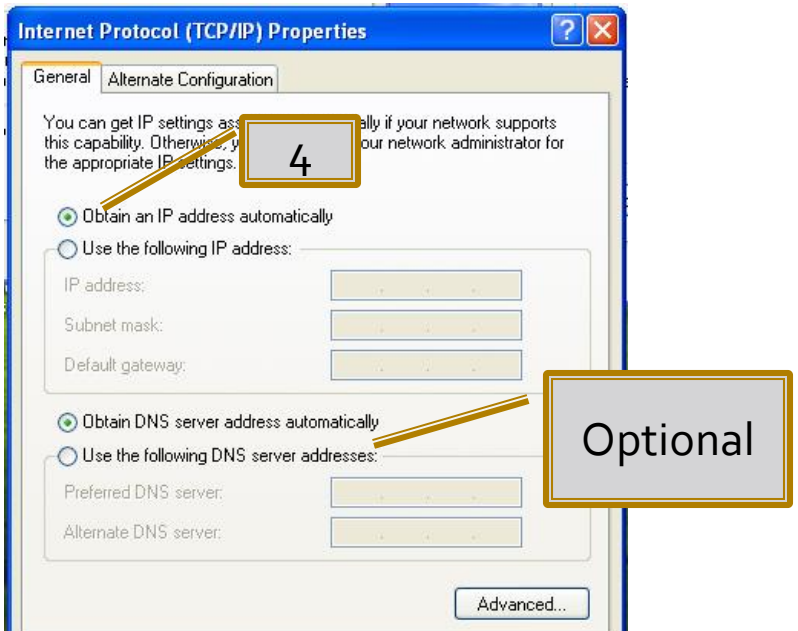
- Date necesare:
  - Adresa IP
  - Subnet Mask
  - Gateway
- Poate fi realizata
  - static
  - dinamic (DHCP)
- DNS – optional

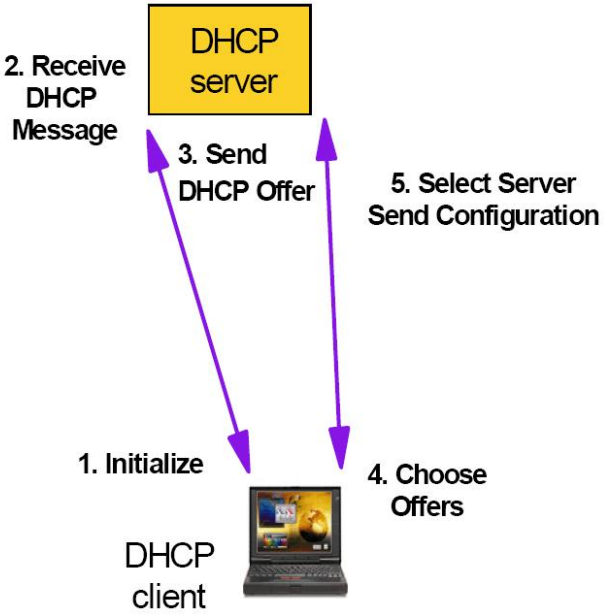
TCP/IP static



DHCP

- **Dynamic Host Configuration Protocol**
  - Permite reutilizarea adreselor IP disponibile
  - Datele necesare se obtin automat
  - Necesitatea unui furnizor al datelor respective in retea: server DHCP





Ipconfig

```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Radu>ipconfig /all

Windows IP Configuration

        Host Name . . . . . . . . . . . . : home
        Primary Dns Suffix  . . . . . . . :
        Node Type . . . . . . . . . . . . : Unknown
        IP Routing Enabled. . . . . . . . : No
        WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        Description . . . . . . . . . . . : Intel 21143 Based PCI Fast Ethernet
Adapter (Generic)
        Physical Address. . . . . . . . . : 00-03-FF-AF-D8-57
        Dhcp Enabled. . . . . . . . . . . : Yes
        Autoconfiguration Enabled . . . . : Yes
        IP Address. . . . . . . . . . . . : 192.168.0.134
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.0.1
        DHCP Server . . . . . . . . . . . : 192.168.0.1
        DNS Servers . . . . . . . . . . . : 80.96.184.18
                                            192.168.0.1
        Lease Obtained. . . . . . . . . . : Thursday, October 16, 2008 5:12:49 A
M
        Lease Expires . . . . . . . . . . : Thursday, October 23, 2008 5:12:49 A
M

C:\Documents and Settings\Radu>_
```

ipconfig /all – toate

MAC (Media Access Control)

DHCP ?

DHCP- alocare temporara

Stare IP

Achizitionare adrese IP

- ICANN – Internet Corporation for Assigned Names and Numbers
  - RIPE – Réseaux IP Européens
    - RoTLD – Romania Top Level Domain **www.rotld.ro**
  - ARIN – American Registry for Internet Numbers
  - APNIC – Asia-Pacific Network Information Center
- Pret fixat, non-profit (numai cheltuieli de intretinere)
- Trecere la IPv6 in curs, pentru rezolvarea limitarilor

Achizitionare adrese IP

TIP BLOC ALOCAT	LUNGIME BLOC	COST USD (FARA TVA)
A	<128	50
B	129-256	75
C	257-512	175
D	513-768	225
E	769-1024	275
F	1025-1536	350
G	1537-2048	400
H	2049-3072	800
I	3073-4096	1200

RpTLD:
"Acesta reprezintă taxa pentru serviciul de alocare şi înregistrare a acestor adrese la RIPE. Adresele IPv4 fiind limitate nu se vând ci se aloca temporar atât timp cât este nevoie (justificatã) de ele. RIPE verificã sistematic aceste alocări."

Contact

- Laboratorul de microunde si optoelectronica
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- rdamian@etc.tuiasi.ro