

Časť VI. - Ako na Windowsový server Časť VII. – Administrácia systému - windows



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Ako na Windowsový server

Typická inštalácia windowsového systému

- **Inštalácia a konfigurácia**
 - inštalácia Windows serveru so základnými sieťovými úlohami
- **Lab – windowsový server**
 - inštalácia typického Windows servera
 - ActiveDirectory, DNS, WINS a DHCP server
 - doménový server
 - nastavenie logovania a monitoringu
 - test fungovania celého systému
- **Lab – vzdialený prístup k systémom**

1. Microsoft Windows Server 2003
2. Inštalácia MS Windows Server 2003
3. Inštalácia typického Windows servera
4. Inštalácia DNS
5. Inštalácia Active Directory (Domain Controller)
6. Inštalácia WINS
7. Inštalácia DHCP
8. Nastavenie logovania a monitoring
9. Overenie funkčnosti systému
10. Vzdialený prístup k systému
11. Zálohovanie dát

Microsoft Windows Server 2003

Požiadavky na inštaláciu

	Procesor	Pamäť
Web	133 MHz / 550 MHz	128 MB / 256 MB
Standard	133 MHz / 550 MHz	128 MB / 256 MB
Enterprise	133 MHz / 733 MHz Itanium 733 MHz	128 MB / 256 MB
Datacenter	400 MHz / 733 MHz Itanium 733 MHz	512 MB / 1 GB

- HDD: 1,2 – 2,9 GB minimum
- VGA (odporúčané min.800x600)

Verzie Microsoft Windows Server 2003

Voľba edície podľa použitia:

- **Web Edition** – web servery (a farmy), nemôže byť DC, DNS, DHCP
- **Standard Edition** – ak nevyžadujeme črty Enterprise Edition
- **Enterprise Edition** – ak potrebujeme niektoré z črt edície, najčastejšie
 - >4GB RAM
 - >4 CPU
 - MS Cluster Service
- **Datacenter Edition** – dostupná iba od výrobcov serverov spolu s HW

Verzie Microsoft Windows Server 2003

32-bit	Web SP2	Std. SP2	Std. R2	Ent. SP2	Ent. R2	Dcr SP2	Dcr R2
Procesorov (max.)	2	4	4	8	8	32	32
Pamäť (max.)	2GB	4GB	4GB	64GB	64GB	128GB	128GB

64-bit	Std. x64	Std. x64 R2	Ent. x64	Ent. x64 R2	Ent. Itanium	Dcr x64	Dcr x64 R2	Dcr Itanium
Procesorov (max.)	4	4	8	8	8	64	64	64
Pamäť (max.)	4GB	32GB	2TB	2TB	2TB	2TB	2TB	2TB

 viac informácií o porovnaní edícií na
<http://www.microsoft.com/technet/windowsserver/evaluate/features/compare.mspx>

Inštalácia Windows Server 2003

Možnosti inštalácie:

- **Interaktívna** – malý počet inštalácií, jedinečné konfigurácie, vytvorenie obrazu, upgrade
- **Unattended** – heterogénny HW, upgrade, Certificate Services, Cluster service
- **Image-based + Sysprep** – homogénny HW, rýchla inštalácia, nasadenie aplikácií
- **Remote Installation Services (RIS)** – minimálna interakcia, nasadenie aplikácií
- softvér pre **system management**

Interaktívna inštalácia

- setup.exe – autorun
- winnt32.exe – Windows 95 a vyššie
- winnt.exe – MS-DOS

- **winnt32**
 - /checkupgradeonly
 - /makelocalsource
 - /syspart:*DriveLetter*
 - /tempdrive:*DriveLetter*

- **Interaktívna inštalácia**

- /checkupgradeonly – overí či pre aktuálny OS je možný upgrade na Windows 2003
- /makelocalsource – skopíruje inštalačné súbory na lokálny disk, takže inštalačné CD už nie je potrebné po prvom reboote
- /syspart:*DriveLetter* - umožní pripraviť pevný disk pre inštaláciu Windows 2003 tak, že disk môže byť presunutý do iného počítača pre ukončenie inštalácie (označí disk ako active, nakopíruje naň inštalačné súbory a urobí prvú fázu setupu). Musí byť použitý spolu s parametrom /tempdrive:*DriveLetter* a ukazovať na rovnakú partíciu. Môže byť použitý iba na systémoch Windows NT a Windows 2000.

- **Initial stage (data-collection)**
- **Intermediate stage (text-mode)**
 - „Press F6 if you need to install a third party SCSI or RAID driver ...“
 - Windows Licensing Agreement
 - Disk partition
- **Final stage (GUI-mode)**
 - Regional and Language Options
 - Name, organization
 - Product Key
 - Licensing mode
 - Computer name, administrator password
 - Date and Time
 - Networking
 - Workgroup / domain

● Unattended inštalácia

1. vytvoriť *answer file* a ak je potrebné aj *distribution share*
2. **winnt32.exe /unattended:[AnswerFile]**
3. setup vykoná všetky kroky podľa nastavení v *answer file* a potrebné reštarty až do ukončenia inštalácie

● 2 možnosti:

- distribution share + unattend.txt
- štart z CD + winnt.sif na diskete

● Setup Manager (setupmgr.exe) – sprievodca pre vytvorenie *answer file*

● Image-based + System Preparation (Sysprep)

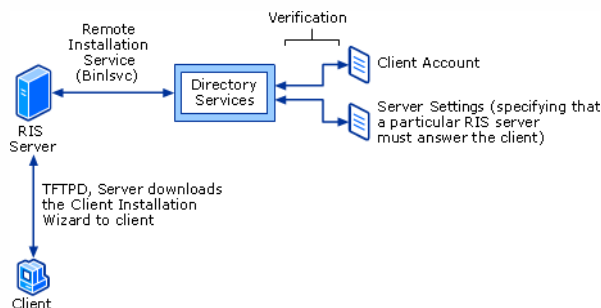
1. vytvoriť master inštaláciu
2. sysprep.exe
3. vytvoriť obraz disku (non-Microsoft alebo Automated Deployment Services - ADS)
4. vytvoriť *answer file*
5. nakopírovať obraz na cieľový server a reštartovať
6. setup vykoná všetky kroky podľa nastavení v *answer file* a potrebné reštarty až do ukončenia inštalácie

ADS - <http://www.microsoft.com/windowsserver2003/downloads/featurepacks/default.msp>.

Remote Installation Services (RIS)

- využíva technológiu Pre-Boot eXecution Environment (PXE)
- musí byť implementovaný RIS server
- pri štarte počítača stlačiť F12 pre spustenie vzdialeného bootovania zo sieťového adaptéra (ten musí byť PXE-capable)

Architektúra RIS:




Manage Your Server
Server: SERVER012

Adding Roles to Your Server
Adding roles to your server lets it perform specific tasks. For example, the file server role enables your server to share files. To add a role, start the Configure Your Server Wizard by clicking [Add or remove a role](#) or [Read about server roles](#).

Configure Your Server Wizard
Server Role: You can set up this server to perform one or more specific roles. If you want to add more than one role to this server, you can run this wizard again.

Server Role	Configured
File Server	No
SharePoint Services	No
Print Server	No
Application server (IIS, ASP.NET)	No
Mail server (POP3, SMTP)	No
Terminal server	No
Remote access / VPN server	No
Domain Controller (Active Directory)	No
DNS server	No
DHCP server	No
Streaming media server	No
WINS server	No

DNS server
DNS (Domain Name System) servers translate domain and computer DNS names to IP addresses.
If you plan to set up this server as a domain controller and it is the first domain controller in the domain, select the domain controller role. In this case, the domain controller role configures the server so that DNS and Active Directory work together.
[Read about DNS servers](#)

Tools and Updates
Administrative Tools
More Tools
Windows Update
Computer and Domain Name Information
Internet Explorer Enhanced Security Configuration

See Also
Help and Support
Microsoft TechNet
Deployment and Resource Kits
List of Common Administrative Tasks
Windows Server Communities
What's New
Strategic Technology Protection Program

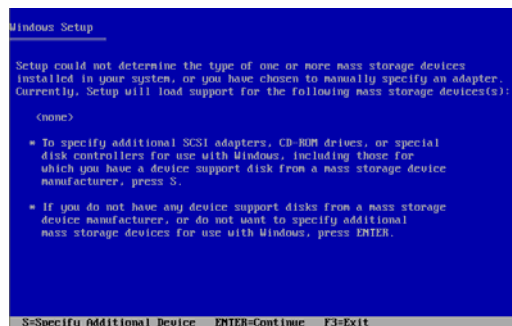
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Inštalácia typického Windows servera

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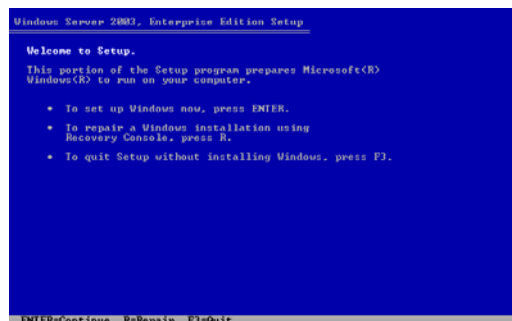
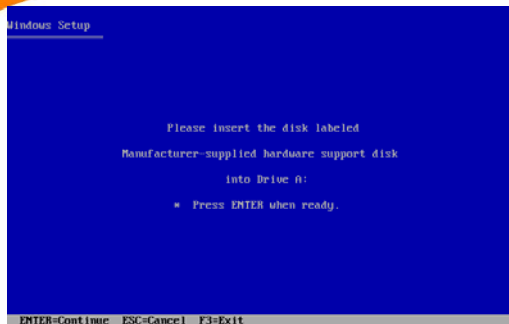
1. F6 pre inštaláciu SCSI/RAID drivera



2. ak je potrebné inštalovať na neznámy disk.systém

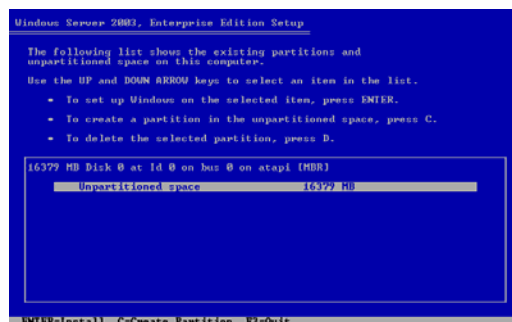
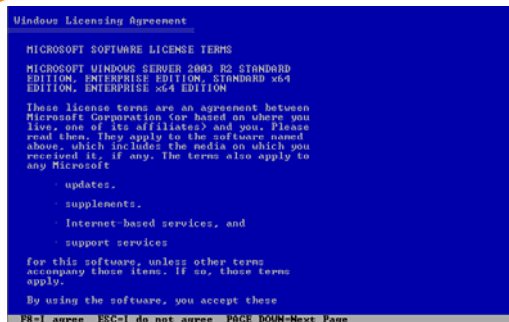
www.ness.com

3. Vložit disk SO SCSI/RAID driverom



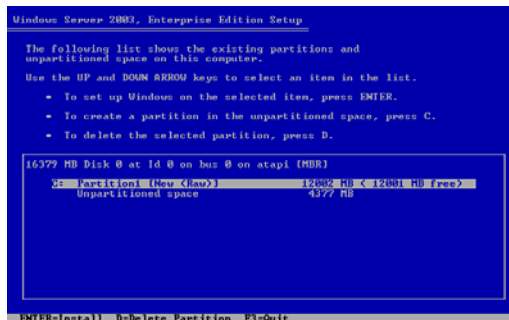
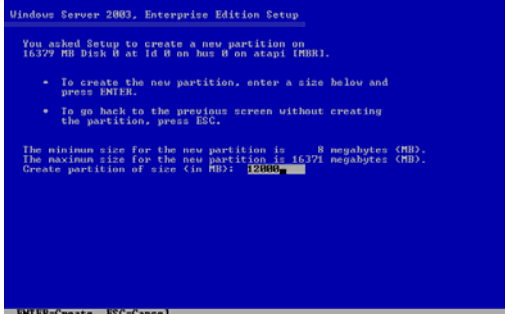
4. Stlačit ENTER

5. F8 pre súhlas s licenčnou zmluvou



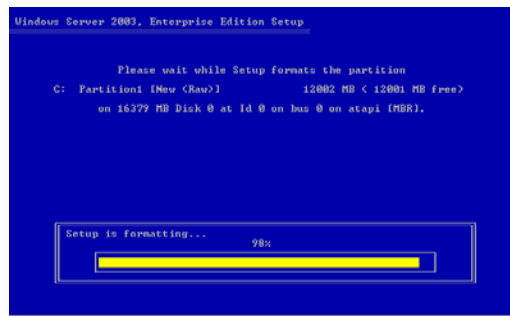
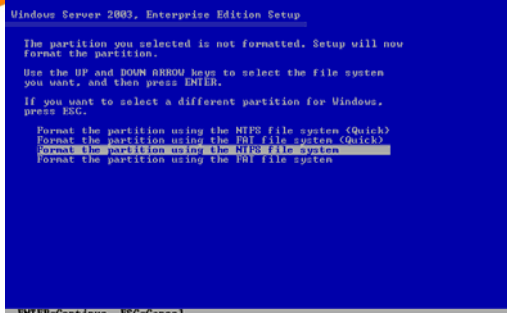
6. Ak nie sú na disku vytvorené partície ...

7. ... je
potrebné
prvú partíciu
vytvoriť.



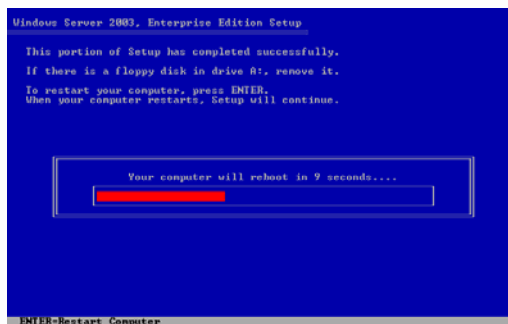
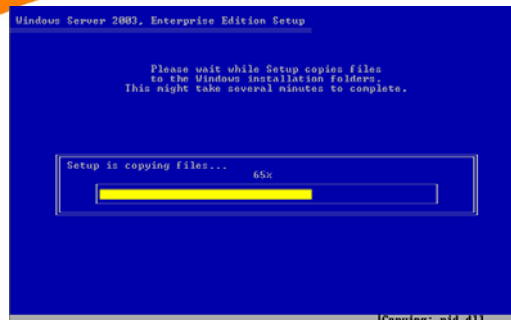
8. Vybrať
partíciu pre
systém

9. Zvoliť file
system



10. Prebehne
formátovanie
partície

11. Setup
nakopíruje
systémové
súbory na
disk

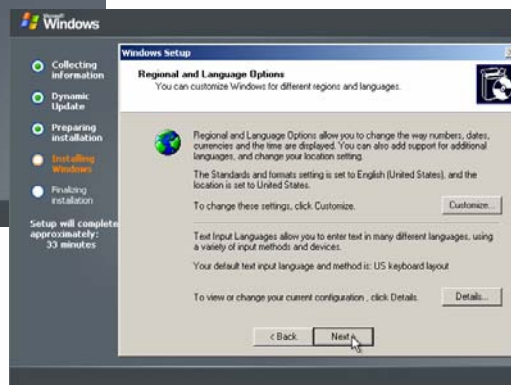


12. Koniec
Intermediate
stage – reboot.

13. Final stage

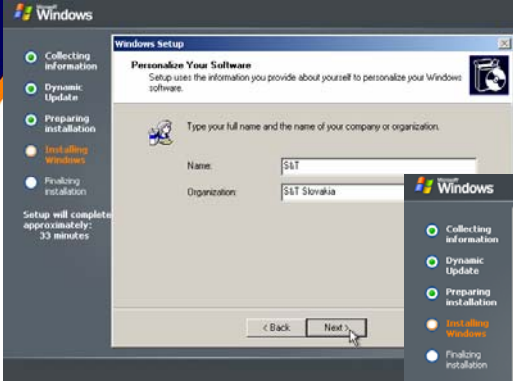


14. Zvoliť Regional and
Language options –
štandardy, formáty,
klávesnice,...

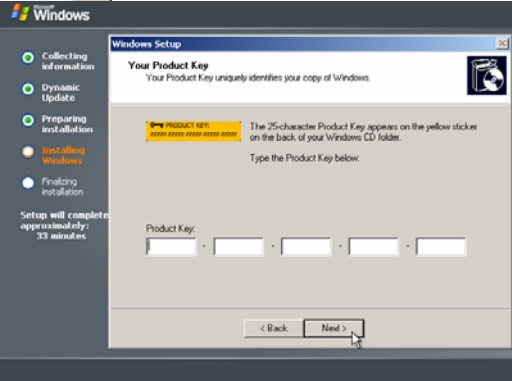


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15. Meno a organizácia



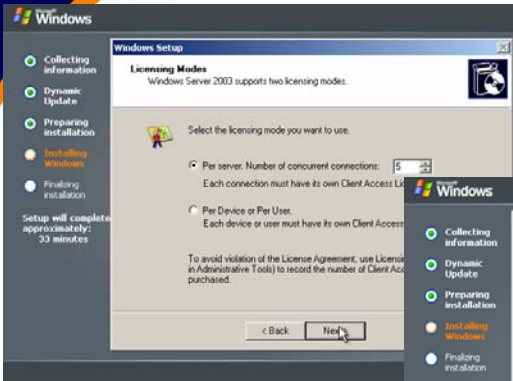
16. 25-miestny Product key



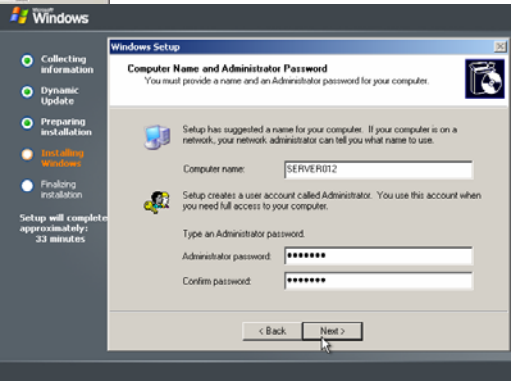
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17. Zvoliť spôsob licencovania (Per server vs. Per Device/User)



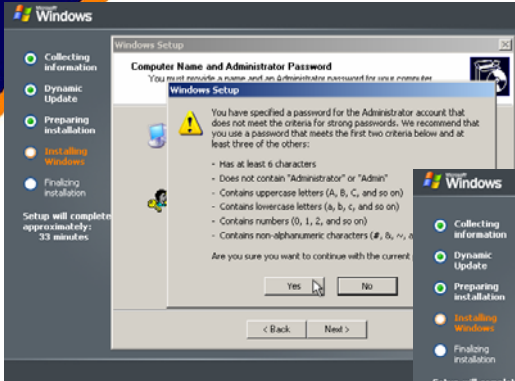
18. Názov servera a heslo administrátora



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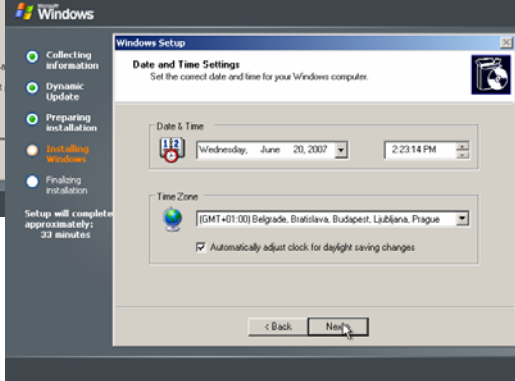
19. Heslo administrátora musí splniť kritériá pre bezpečnosť



- Has at least 6 characters
- Does not contain "Administrator" or "Admin"
- Contains uppercase letters (A, B, C, and so on)
- Contains lowercase letters (a, b, c, and so on)
- Contains numbers (0, 1, 2, and so on)
- Contains non-alphanumeric characters (#, @, %, and so on)

Are you sure you want to continue with the current password?

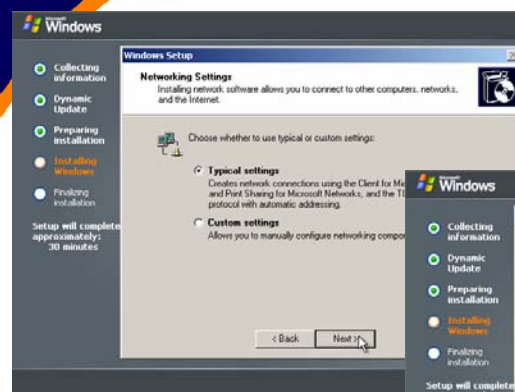
20. Čas a dátum



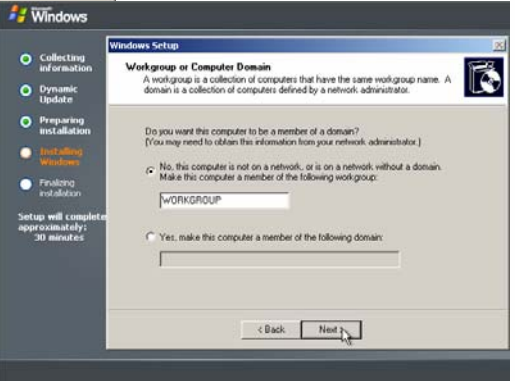
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21. Nastavenie siete



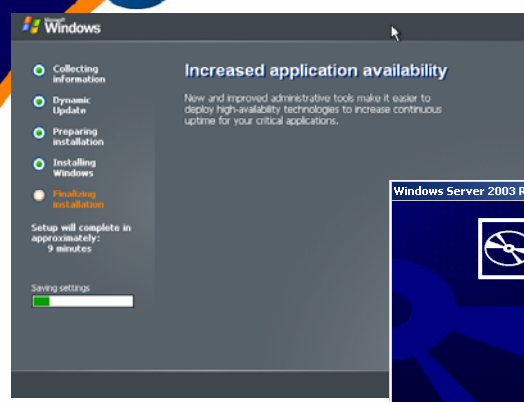
22. Zaradenie do windows domény alebo skupiny



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23. Koniec inštalácie



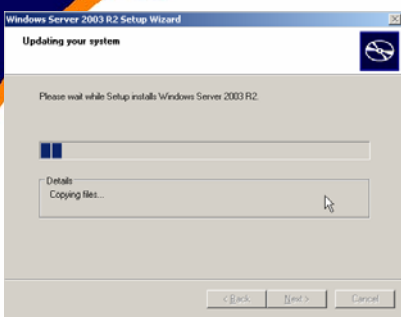
24. Po reštarte automatické spustenie sprievodcu pre update systému na R2



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25. Prebieha update ...



26. ... nakoniec výzva na bezpečnú inštaláciu aktualizácií z webu MS



Inštalácia DNS

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Inštalácia DNS servera

Manage Your Server
Server: SERVER012

Search Help and Support Center

Adding Roles to Your Server

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Tools and Updates

- Administrative Tools
- More Tools
- Windows Update
- Computer and Domain Name Information
- Internet Explorer Enhanced Security Configuration

See Also

- Help and Support
- Microsoft TechNet
- Deployment and Resource Kits
- List of Common Administrative Tasks
- Windows Server Communities
- What's New
- Strategic Technology Protection Program

Configure Your Server Wizard

You can set up this server to perform one or more specific roles. If you want to add more than one role to this server, you can run this wizard again.

Select a role. If the role has not been added, you can add it. If it has already been added, you can remove it. If the role you want to add or remove is not listed, open [Add or Remove Programs](#).

Server Role	Configured
File Server	No
SharePoint Services	No
Print Server	No
Application server (IIS, ASP.NET)	No
Mail server (POP3, SMTP)	No
Terminal server	No
Remote access / VPN server	No
Domain Controller (Active Directory)	No
DNS server	No
DHCP server	No
Streaming media server	No
WINS server	No

DNS server

DNS (Domain Name System) servers translate domain and computer DNS names to IP addresses.

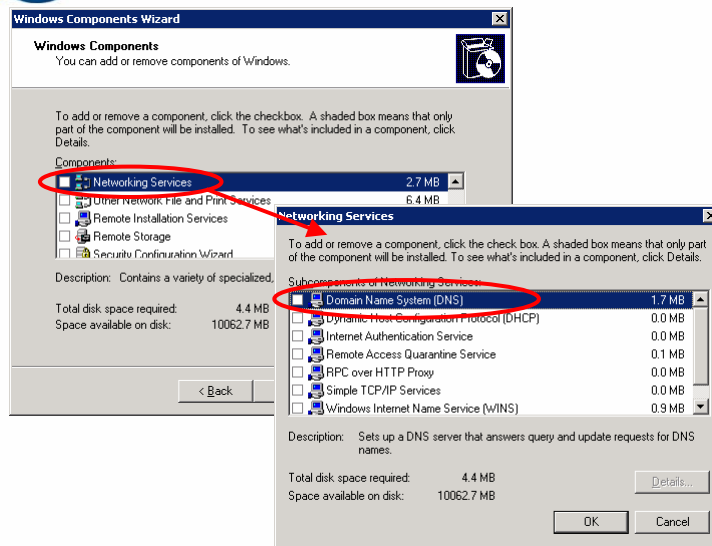
If you plan to set up this server as a domain controller and it is the first domain controller in the domain, select the domain controller role. In this case, the domain controller role configures the server so that DNS and Active Directory work together.

[Read about DNS servers](#)

< Back Next > Cancel Help

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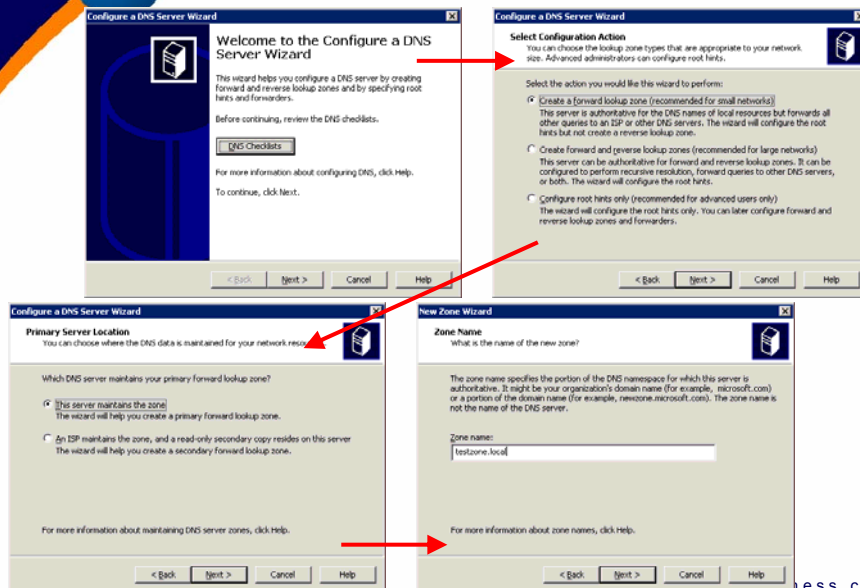
Inštalácia DNS servera



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Inštalácia DNS servera



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3

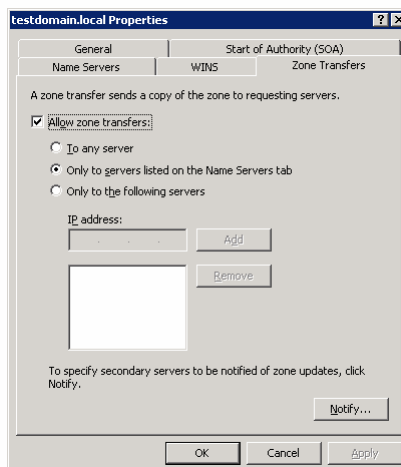
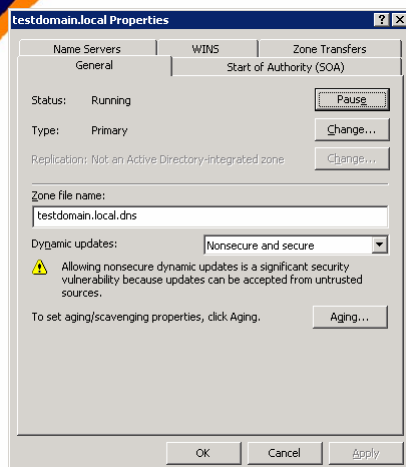
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We Are IT **NESS** **Konfigurácia DNS servera**

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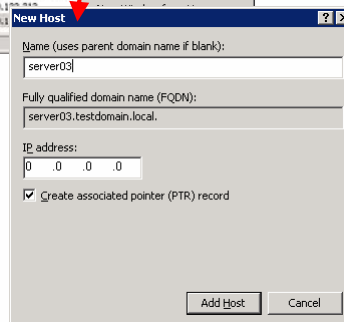
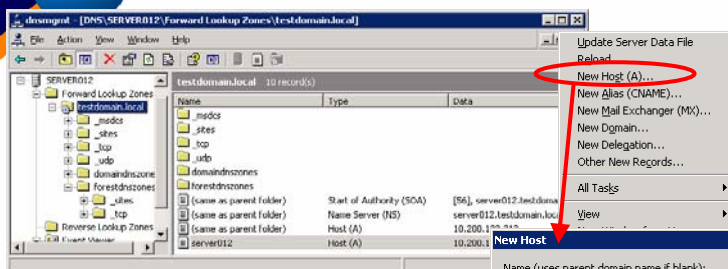
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Konfigurácia DNS zóny



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Pridávanie záznamov do DNS



Typ	Popis
A	Host name na IP adresu
PTR	IP adresa na host name
SOA	Prvý záznam v každej zóne
SRV	Názvy serverov poskytujúcich služby
NS	Identifikuje DNS server pre každú zónu
MX	Mail server
CNAME	Alias na host name

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Inštalácia Active Directory (Domain Controller)

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Active Directory a DNS

- AD potrebuje DNS server
 - autoritatívny
 - SRV záznamy (nutné)
 - dynamic updates (odporúčané)
 - incremental zone transfers (odporúčané)
- Active Directory Integrated Zones
 - uložené v AD databáze
 - využívajú replikáciu AD – bezpečná, šifrovaná
 - umožňujú bezpečné dynamické updaty

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Proces inštalácie Active Directory

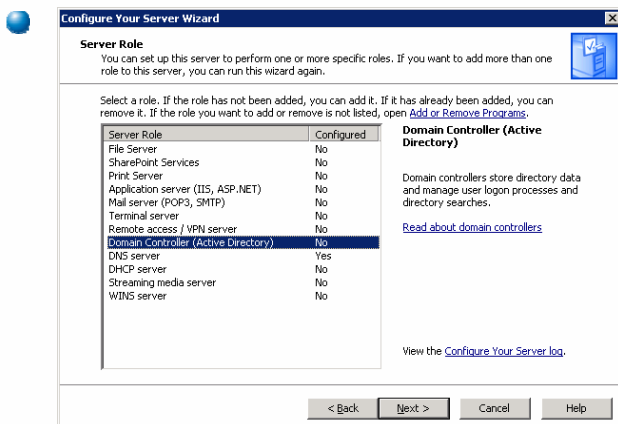
- Spustenie dcpromo
- Nová vs. existujúca doména
- Nový vs. existujúci les
- DNS a NetBIOS name
- Adresáre pre AD
- Registrácia v DNS
- Kompatibilita prístupových práv
- Heslo pre restore mode
- Reštart

41

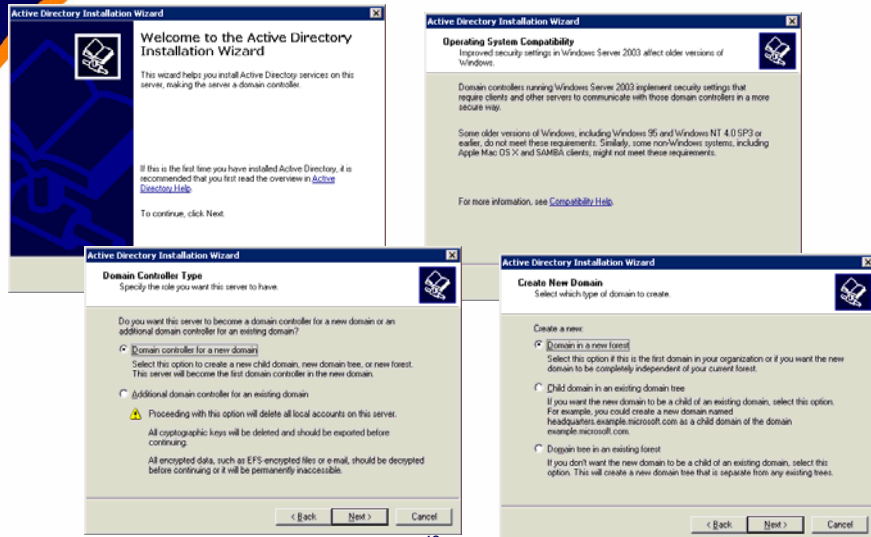
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Inštalácia Active Directory

● dcpromo alebo



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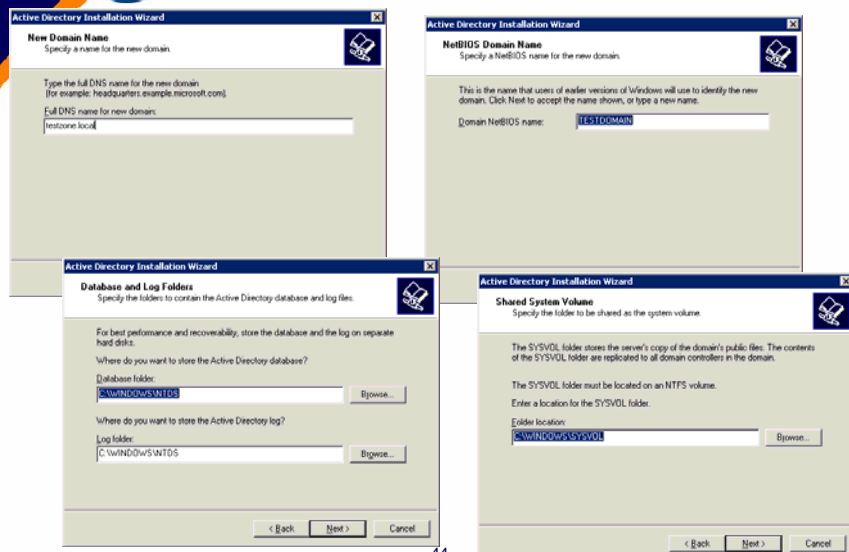


The screenshots show the first four steps of the Active Directory Installation Wizard:

- Welcome to the Active Directory Installation Wizard:** This wizard helps you install Active Directory services on this server, making the server a domain controller. It recommends reading the overview in [Active Directory Help](#) and clicking Next.
- Operating System Compatibility:** Improved security settings in Windows Server 2003 affect older versions of Windows. It notes that domain controllers running Windows Server 2003 implement security settings that require clients and other servers to communicate with those domain controllers in a more secure way. It also mentions that some older versions of Windows (95, NT 4.0 SP3 or earlier) and non-Windows systems (Apple Mac OS X and Samba clients) might not meet these requirements. A [Compatibility Help](#) link is provided.
- Domain Controller Type:** The user is asked to specify the role of the server. The 'Domain controller for a new domain' option is selected, which will create a new child domain, new domain tree, or new forest. A warning indicates that proceeding will delete all local accounts and cryptographic keys, and that encrypted data will become inaccessible.
- Create New Domain:** The user is asked to select the type of domain to create. The 'Domain in a new forest' option is selected, indicating it is the first domain in the organization.

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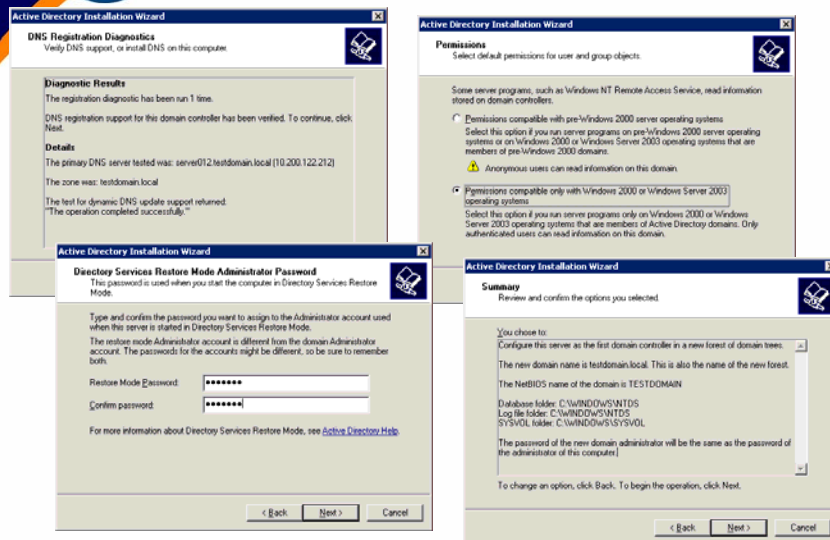


The screenshots show the next four steps of the Active Directory Installation Wizard:

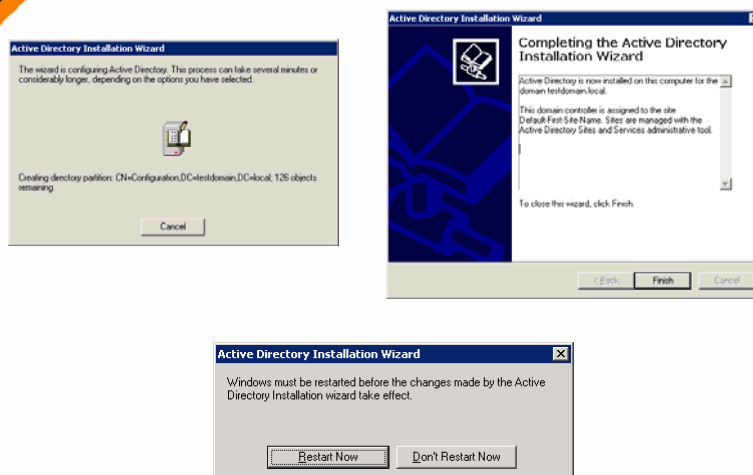
- New Domain Name:** The user is asked to specify a name for the new domain. The 'Full DNS name for new domain' field contains 'testzone.local'.
- NetBIOS Domain Name:** The user is asked to specify a NetBIOS name for the new domain. The 'Domain NetBIOS name' field contains 'TESTDOMAIN'.
- Database and Log Folders:** The user is asked to specify the folders to contain the Active Directory database and log files. The 'Database folder' is 'C:\WINDOWS\NTDS' and the 'Log folder' is 'C:\WINDOWS\NTDS'.
- Shared System Volume:** The user is asked to specify the folder to be shared as the system volume. The 'Folder location' is 'C:\WINDOWS\SYSVOL'.

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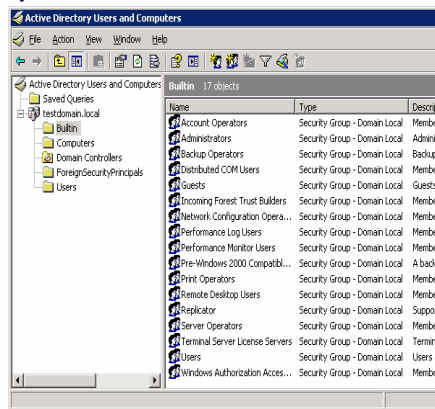


45



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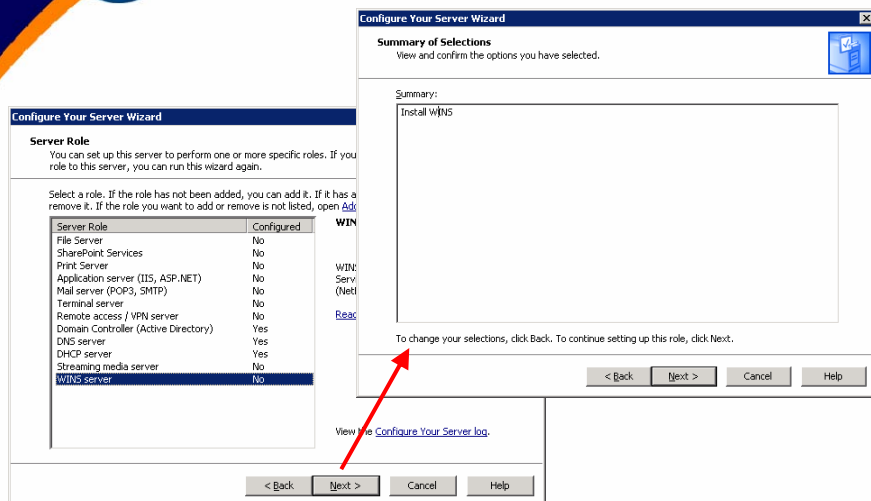
- **Active Directory Users and Computers**
 - oboznámenie sa s východným nastavením, built-in užívateľia a skupiny
 - správa doménových užívateľov, skupín a počítačov;
- **Active Directory Domains and Trusts**
 - oboznámenie sa s prostredím konzoly
 - vytvorenie trustu
- **Active Directory Sites and Services**
 - konfigurácia site
 - určenie GC servera
- **Domain Controller Security Policy**
 - nastavenie auditu na DC
- **Domain Security Policy**
 - nastavenie politík pre účty a heslá



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Inštalácia WINS

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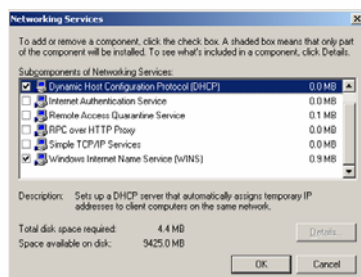
- Práca so záznamami vo WINS
- Konfigurácia replikácie vo WINS Server
- Zálohovanie WINS databázy

WINS							
Active Registrations							
Records filtered: 7 -- Records scanned: 7							
Record Name	Type	IP Address	State	Static	Owner	Version	Expiration
MSBROWSE	[00h] WorkStation	157.56.177.171	Active		157.56.177.171	4	10/2/2002 11:32:50 AM
LEGACYPC	[20h] File Server	157.56.177.171	Active		157.56.177.171	2	10/2/2002 11:32:50 AM
LEGACYPC	[00h] Workgroup	157.56.177.171	Active		157.56.177.171	3	10/2/2002 11:32:50 AM
LEGACYPC	[1Eh] Normal Group Name	157.56.177.171	Active		157.56.177.171	1	10/2/2002 11:32:50 AM
NWTRADERS	[00h] WorkStation	1.2.3.4	Active	x	157.56.177.171	5	Infinite
NWTRADERS	[03h] Messenger	1.2.3.4	Active	x	157.56.177.171	6	Infinite
VANCOUVER	[20h] File Server	1.2.3.4	Active	x	157.56.177.171	7	Infinite

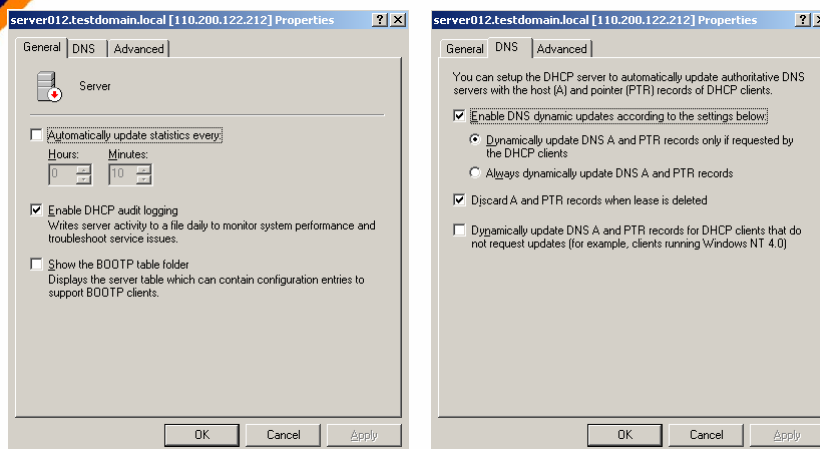
Inštalácia DHCP

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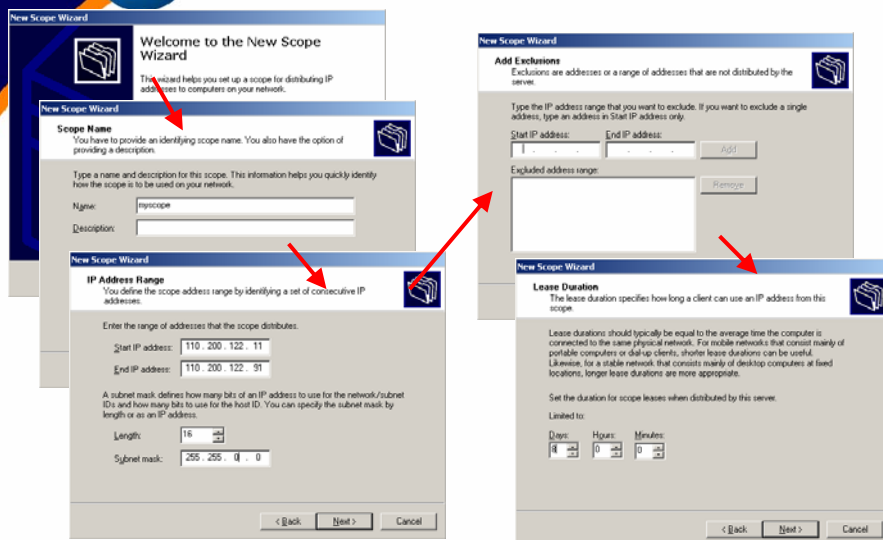
Inštalácia DHCP



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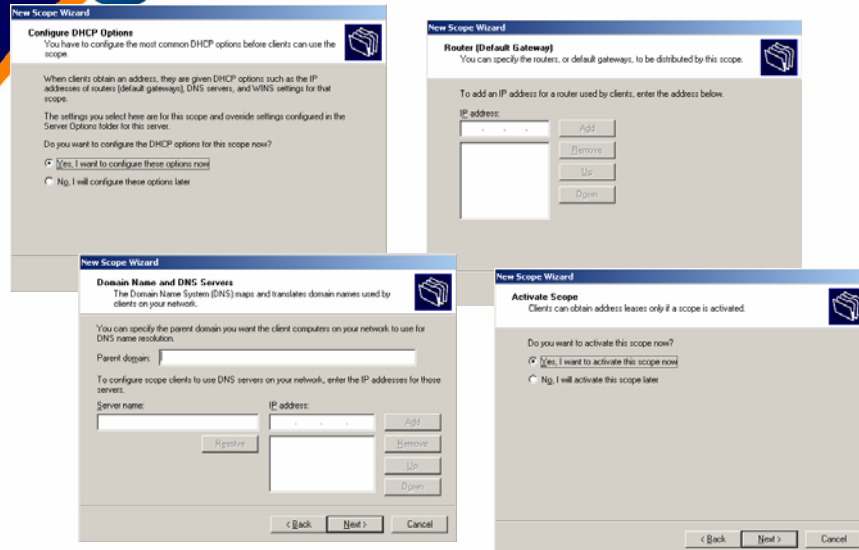


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Vytvorenie Scope

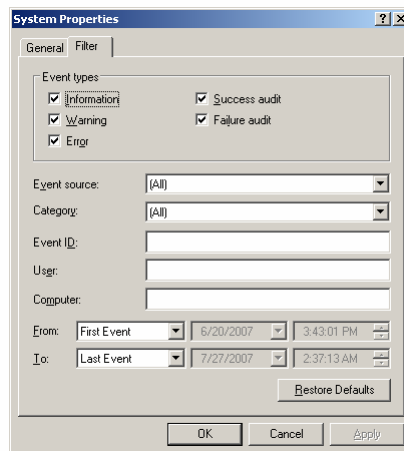
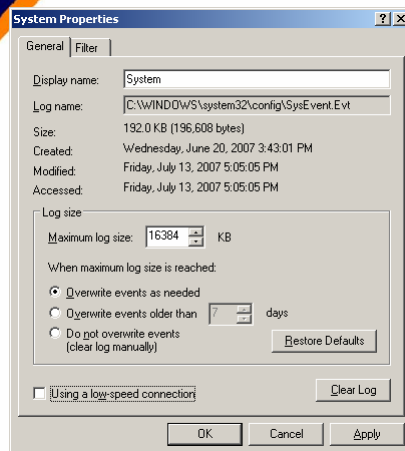


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Nastavenie logovania a monitoring

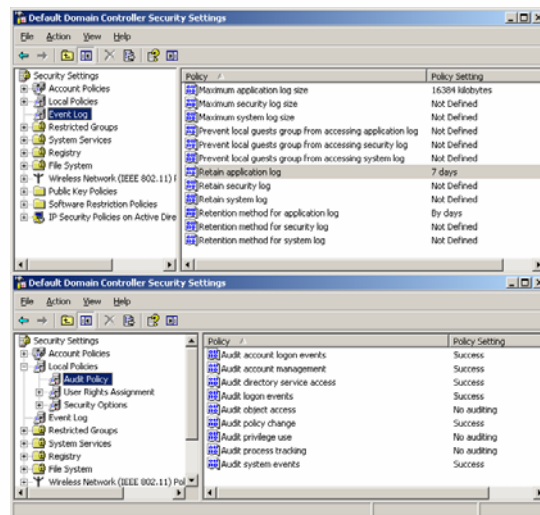
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Nastavenia Event Logu

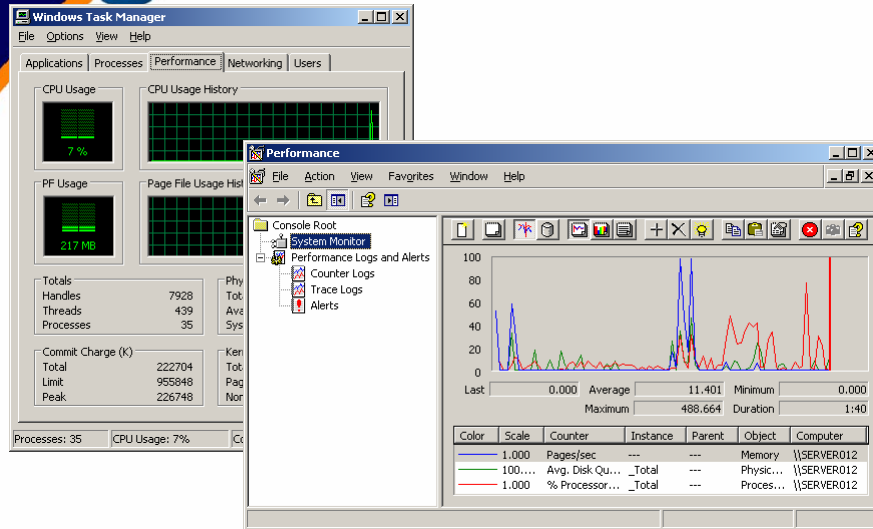


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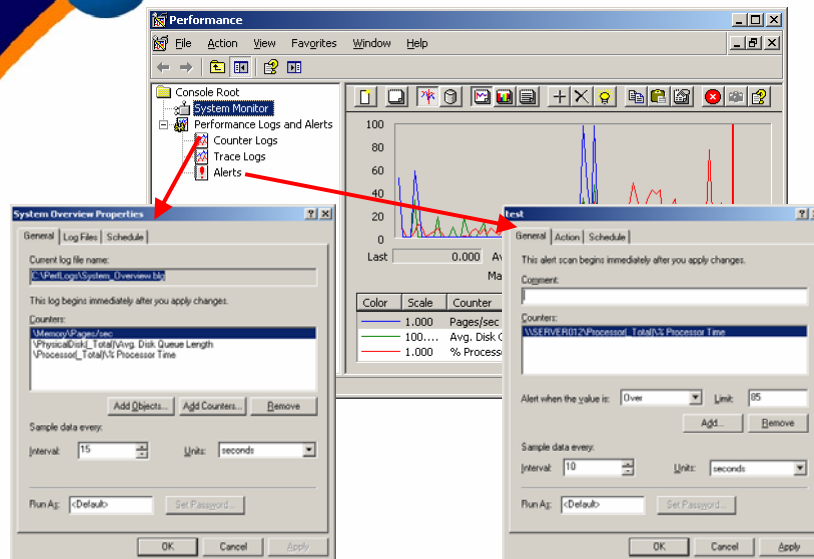
Použitie Group Policy pre nastavenie Event Logu a auditu



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Overenie funkčnosti systému

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Overenie funkčnosti systému

- **Sledovanie Event Logu**
 - System log
 - Application log
- **Overenie behu služieb**
 - Services
 - admin.konzoly DNS, WINS, DHCP
- **Základné testy dostupnosti služieb**
 - Active Directory - Domain Controller Diagnostic Tool (Dcdiag.exe)
 - DNS – nslookup

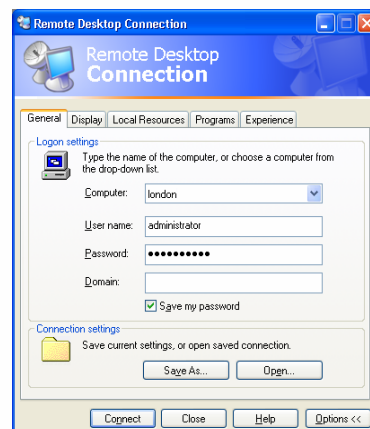
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Vzdialený prístup k systému

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Remote Desktop for Administration

- **Remote Desktop for Administration** – prístup k serveru pomocou Remote Desktop Protocol (RDP)
- max. 2 súčasné pripojenia k serveru (viac iba po zakúpení a implementácii licencií pre Terminal Services)
- služba Remote Desktop Service musí byť povolená a nakonfigurovaná
- Ak je povolený Windows Firewall na serveri - **port 3389** musí byť otvorený
- prístup cez WAN, VPN, dial-up



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Remote Desktop for Administration

- dve možnosti klienta:

- Remote Desktop Connection
- Remote Desktops snap-in

- možno spustiť z command-line: **mstsc**

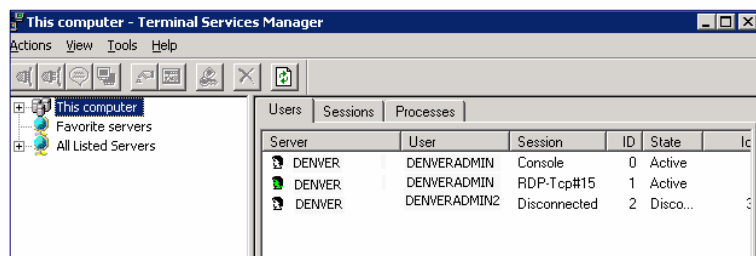
Switch	Description
<i>ConnectionFile</i>	Specifies the name of an .rdp file for the connection.
<i>/r:server</i>	Specifies the remote computer to which you want to
<i>/console</i>	Connects to the console session of the specified
<i>/f</i>	Starts Remote Desktop connection in full-screen
<i>/w:width /h:height</i>	Specifies the dimensions of the Remote Desktop Screen.

Vlastnosti RDP

- rozšírenie rodiny protokolov **ITU T.120**
- Šifrovanie** – RSA RC4, 56- alebo 128-bit
- Roaming disconnect** – je možné sa odpojiť bez odhlásenia sa; pri ďalšom pripojení je používateľ automaticky pripojený k existujúcej session a môže pokračovať; v prípade výpadku siete je odpojený, ale zostáva prihlásený
- Clipboard mapping** – kopírovanie textu a grafiky medzi lokálnym počítačom a serverom
- Print redirection** – možnosť tlače z Terminal Services na tlačiareň pripojenú na klienta
- Network Load Balancing**
- Smart Card** authentication (cez Terminal Services)
- Sound, drive, port, network printer **redirection**

Terminal Services Manager

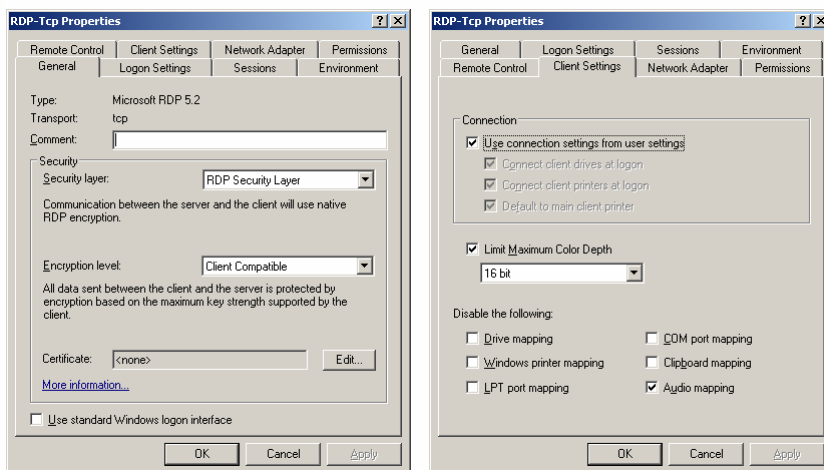
- manuálne odhlásenie, alebo odpojenie používateľa
- prehľad o používateľoch a serveroch



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Terminal Services Configuration

- konfigurácia RDP a nastavenie servera



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Zálohovanie dát

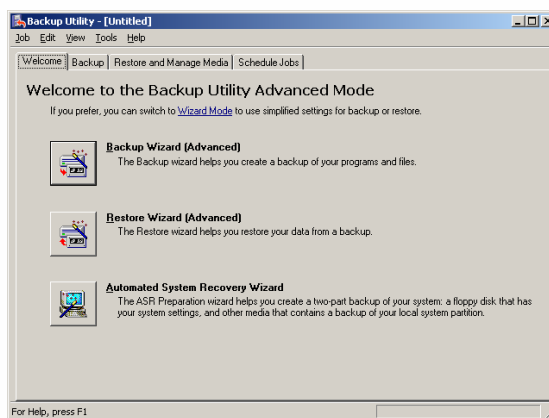
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Zálohovanie dát

Windows Server 2003 obsahuje:

- **Backup** – grafický nástroj
- **ntbackup** - príkaz



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Kto môže zálohovať?

- **Vlastníci súborov a užívatelia s prístupovým právom (permission) Read**
- Užívatelia s právom (right) **Back up files and directories**
- Lokálne skupiny:
 - **Administrators**
 - **Backup operators**
 - **Server operators**

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Backup

- Nástroj **Backup** sa používa na:
 - Zálohovanie súborov a zložiek
 - Zálohovanie System State data
 - Plánovanie zálohovania
 - Obnovu údajov
- Otvorené súbory zálohuje pomocou technológie **Volume Shadow Copy**
- Zálohuje na rôzne médiá

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Otázky?



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