



Pengalaman Membangun Remote Application antara RS dengan jejaring Primary Health care

Nunang Yuliawan
RS Semen Gresik, Jawa Timur

Disajikan dalam Forum:
Indonesian Healthcare Quality Network
Bali, 28 September 2011



Disclaimer

Dalam presentasi ini dengan terpaksa menyebutkan atau memperlihatkan merk. Akan tetapi presentasi ini tidak dibiayai ataupun disponsori oleh merk-merk yang dibahas berikut.



Profil RS Semen Gresik

Kapasitas: 125 TT

Komputer: 84 buah

Server HIS :

IBM

2 x QuadCore 64 bit

RAM 64 GB

OS Linux CentOS

Database: Adaptive
Server Enterprise
(ASE)





Latar Belakang

Kondisi:

Punya aplikasi yg stabil/ mahal

RS membukan cabang yang jauh

Aplikasi harus bisa diakses jauh

Tidak memungkinkan akses langsung

Akses dgn bandwidth kecil



Gambaran Umum

Bukan teknologi baru

Aplikasi: `namafile.exe`

App. Desktop (non-web), dibuat spt web.

Menggunakan Remote Desktop

Aplikasi di dekat server, di-klik dari jauh.

Bandwidth berat bila aplikasinya di client
jauh

Membuat aplikasi dari Remote Application



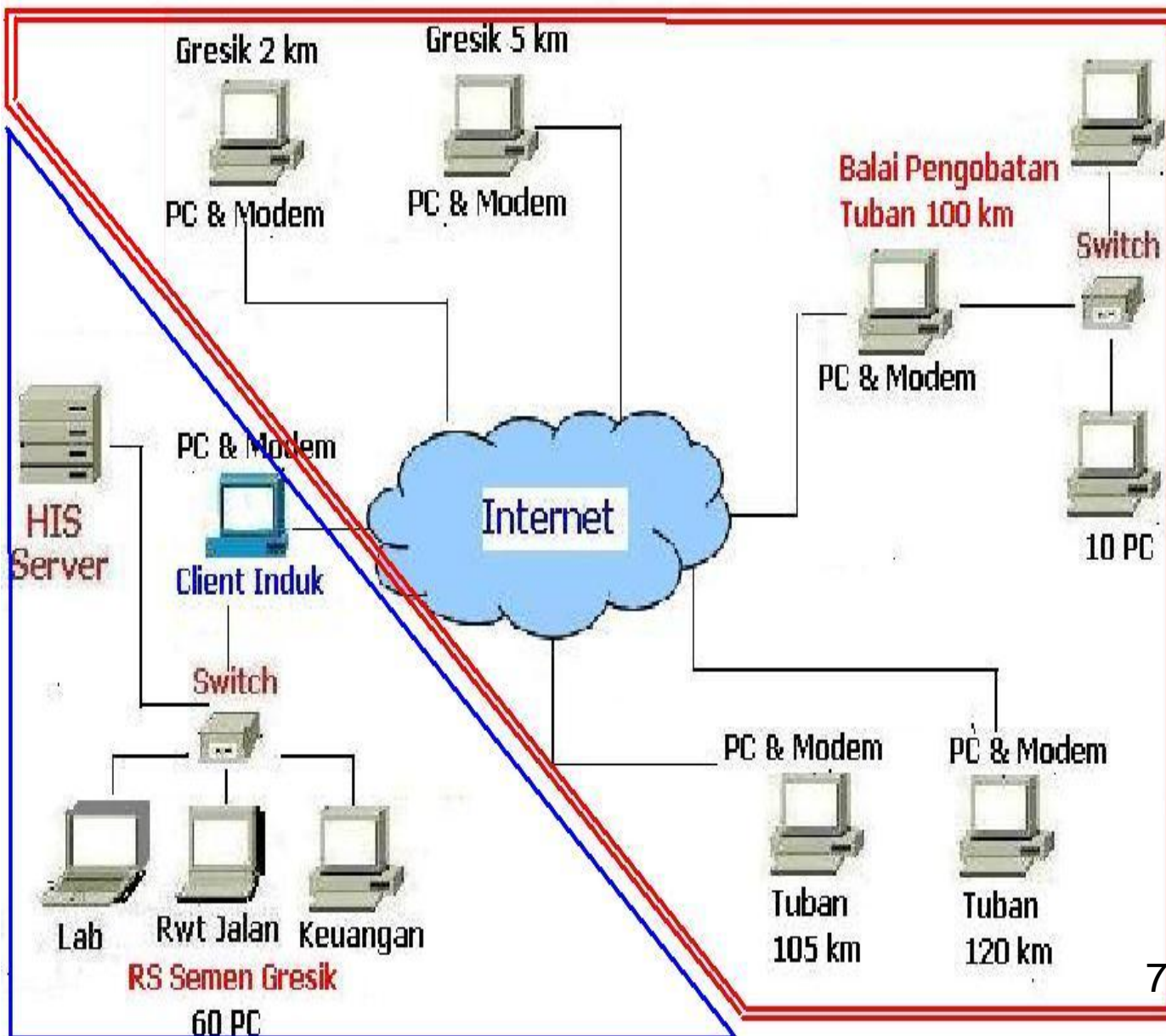
Alat & Bahan

Software Remote Application

PC untuk “Client Induk”

Akses Internet

Diagram & Istilah2 yg dipakai



HIS Server
(Server pusat)

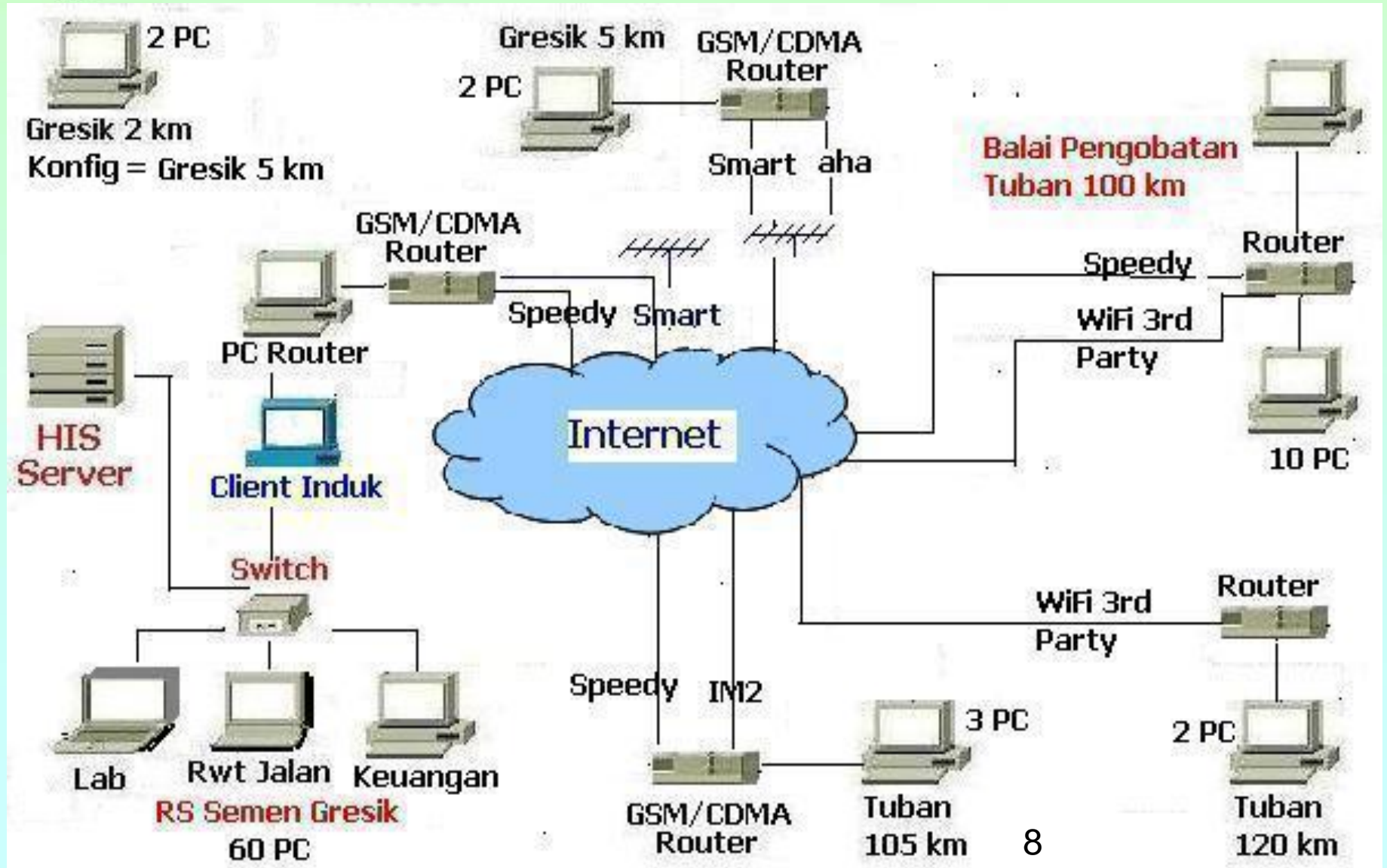
Client Induk

Client lokal

Client jauh



Diagram Implementasi RSSG

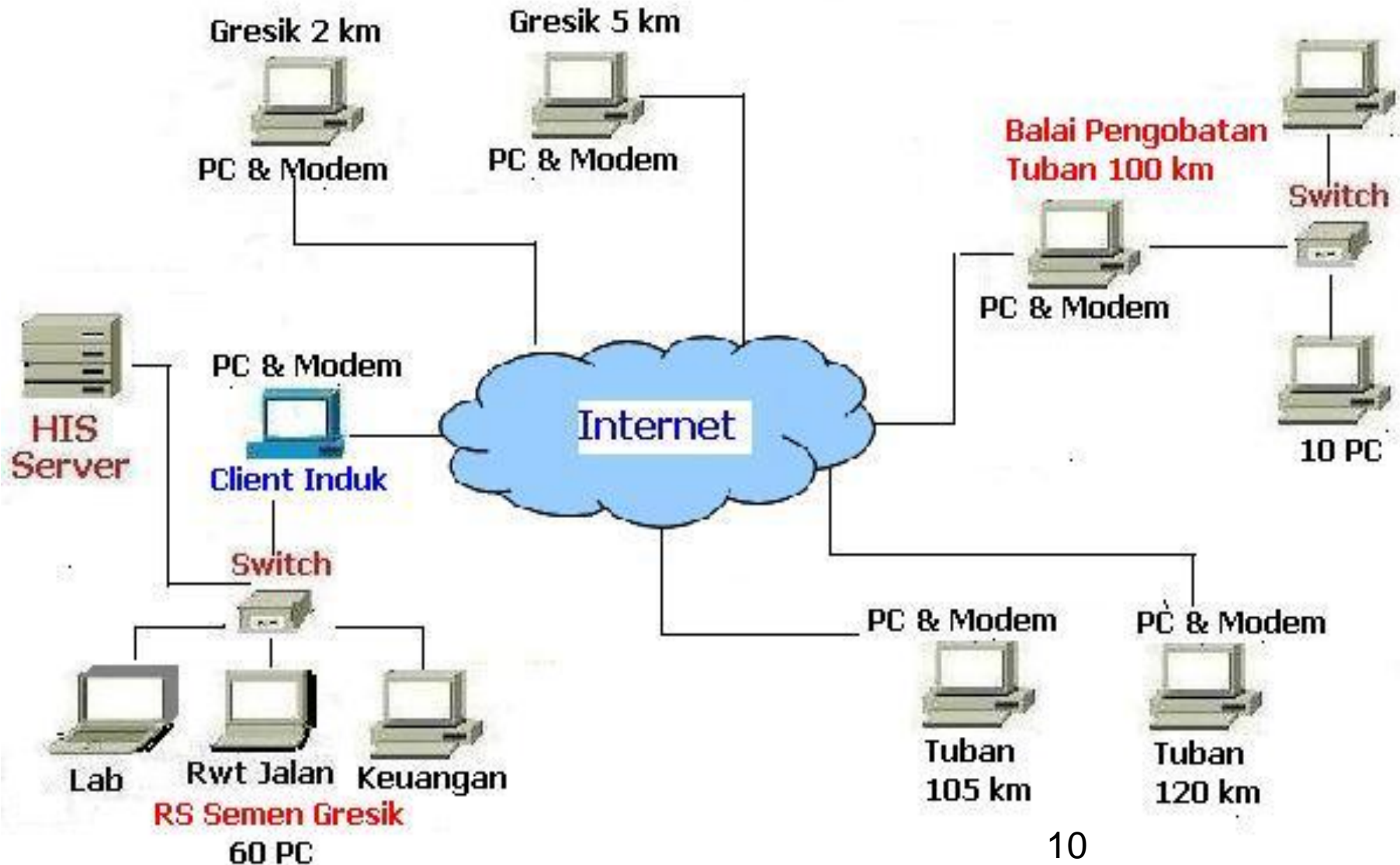




Pilih Software Remote Application

Brand	Citrix	2X	GraphOn	TSplus
Harga	USD 177/ PC	USD 595/ Server (utk 25 PC)	USD 174/ PC	USD 710 /Server (Unlimited PC)
Minimal Order	5 PC	1 Server	5 PC	1 Server
CAL (Client Access Liscence)	USD 38/PC	USD 38/PC	Tanpa CAL	Tanpa CAL
Pembelian	Indonesia (Jkt & Sby)	Singapura	Indonesia (Jkt & Sby) ₉	Singapura Kuala Lumpur

Spesifikasi Client Induk (Client tempat aplikasi)





Spesifikasi Client Induk (Client tempat aplikasi)

OS VMware (optional)

MoBo support VMware (optional)

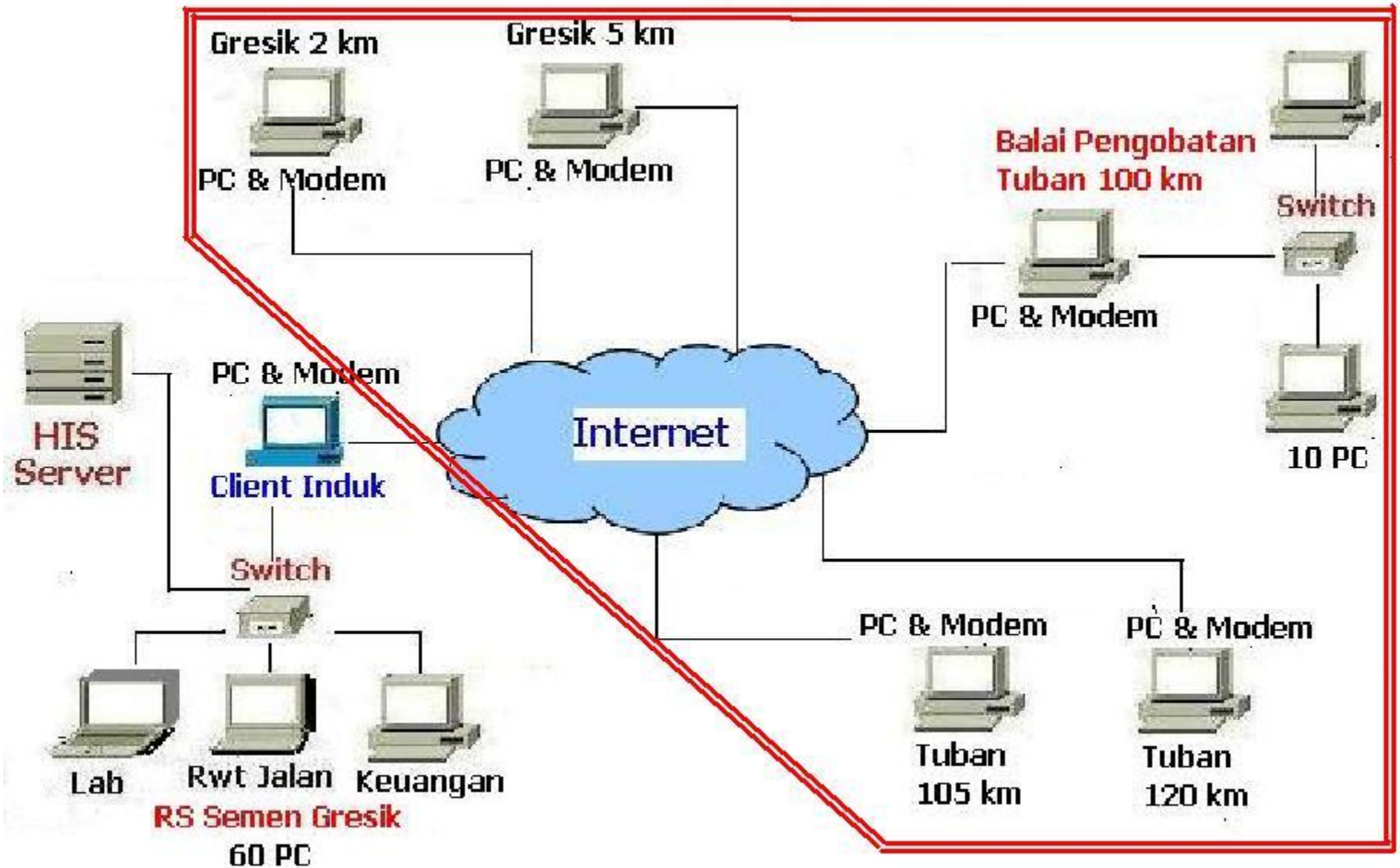
OS Win7 Ultimate 64 bit (Rekomen dari software Remote app.)

RAM 2x4 (8) GB

Processor Intel Core i7 QuadCore 64 bit

HD 128 GB SSD/Solid State Drive (Rekomen dari software Remote app.)

Persiapan Akses Client Jauh



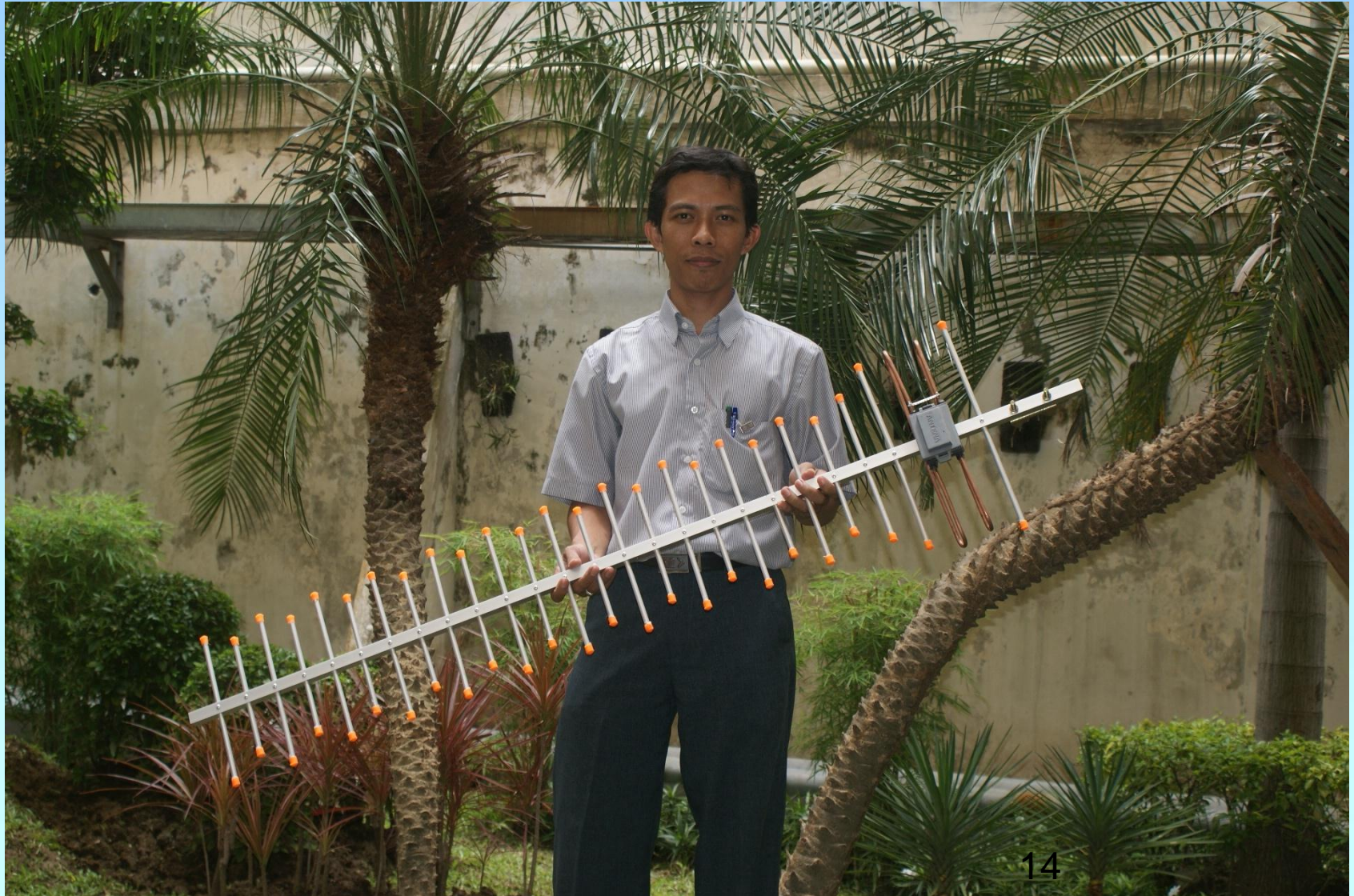


Persiapan Akses Client Jauh

- Cari signal terbaik. (GSM/CDMA/Wifi)
- Telepon (PSTN)
- Siapkan Antena (bila perlu)
- Antena GSM = Antena CDMA
- Cari kabel pigtail utk konek antena-modem.
- Software pengukur kuat signal
- PC tanpa spesifikasi khusus



Gambar Antena GSM/CDMA





Spesifikasi Router & Modem

Modem yg sesuai operator GSM/CDMA

Router LAN dan support modem

(tidak semua Router support modem)

Router yg ada USB

Modem yg ada pigtail

Modem HSUPA utk pusat

Modem HSDPA utk client jauh

Router LAN dg Wifi



Router support Modem



Router dan Modem GSM/CDMA



Modem, Pigtail dan Kabel Pigtail

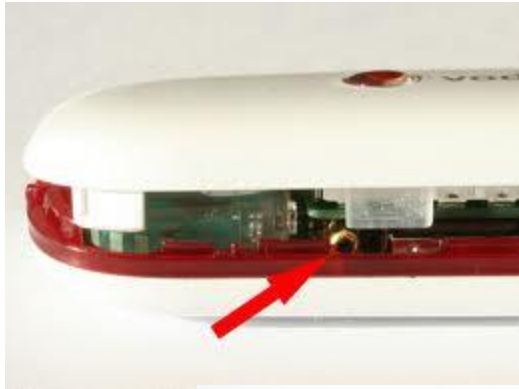
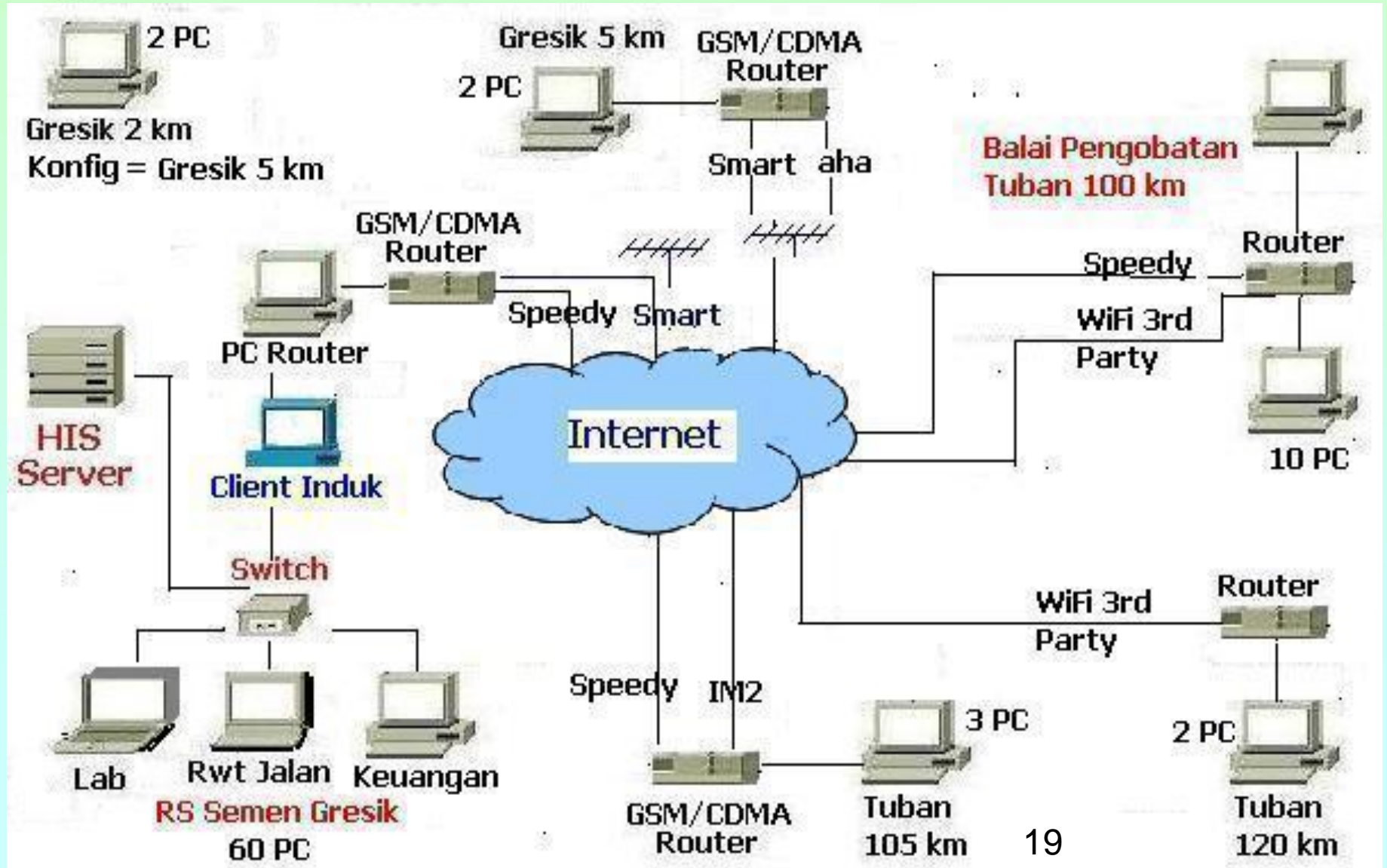


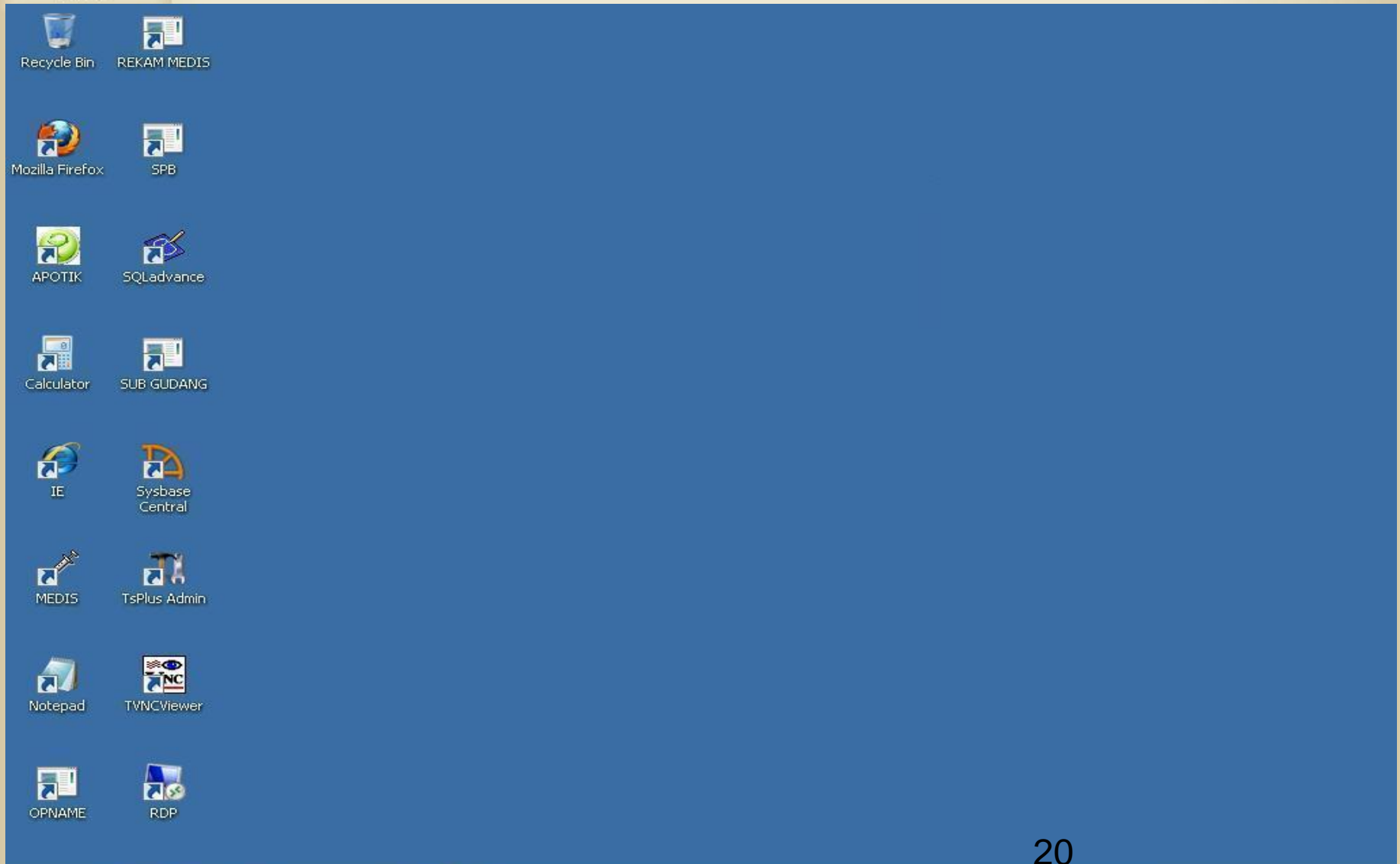


Diagram Implementasi RSSG





Instal Software Remote App.



The screenshot shows the Windows Local Users and Groups (Local)\Users window. The window title is "lusrmgr - [Local Users and Groups (Local)\Users]". The menu bar includes "File", "Action", "View", and "Help". The left pane shows the "Local Users and Groups (Local)" tree with "Users" selected. The main pane displays a list of users with columns for Name, Full Name, and Description. The "Actions" pane on the right shows "Users" and "More Actions".

Name	Full Name	Description
Administrator		Built-in account for administering the...
agus	agus suwito	programmer
bg_admin	administrasi	
bg_checkup	ruang checkup	
bg_depo	depo tuban	
bg_gigi	gigi tuban	
bg_lab	laboratorium	
bg_loket	loket tuban	
bg_rdl	radiologi	
bg_ri	rawat inap	
bg_ugd	ugd_tuban	
bg_utama	ruang server sobari	
budi	budi setiawan	
gubernur		
Guest		Built-in account for guest access to t...
igd	igd gresik	
poli_sg3	poliklinik sg3	
saubari	muchammad saubari	
sentolang1	sentolang1	
sentolang2	sentolang2	
sg2_a	sg2a	
sg2_b	sg2b	
sg2_c	Apotik sg2c	
sg3_a	apotik sg3	
sg3_b	apotik sg3	
sg3_c	apotik sg3	
tbn_pabrik1	poli pabrik tuban	
tbn_pabrik2	poli pabrik tuban	
tbn_proyek	proyek sg	
wito	suwito	
yogi	yogi	

Membuat User Account

File Action View Help

New User... Refresh Export List... Help

Name	Full Name	Description	Actions
Administrator		Built-in account for administering the...	
agus	agus suwito	programmer	
bg_admin	administrasi		
bg_checkup	ruang checkup		
bg_depo	depo tuban		
bg_gigi	gigi tuban		
bg_lab	laboratorium		
bg_loket	loket tuban		
bg_rdl	radiologi		
bg_ri	rawat inap		
bg_ugd	ugd_tuban		
bg_utama	ruang server sobari		
budi	budi setiawan		
gubernur			
Guest		Built-in account for guest access to t...	
igd	igd gresik		
poli_sg3	poliklinik sg3		
saubari	muchammad saubari		
sentolang1	sentolang1		
sentolang2	sentolang2		
sg2_a	sg2a		
sg2_b	sg2b		
sg2_c	Apotik sg2c		
sg3_a	apotik sg3		
sg3_b	apotik sg3		
sg3_c	apotik sg3		
tbn_pabrik1	poli pabrik tuban		
tbn_pabrik2	poli pabrik tuban		
tbn_proyek	proyek sg		
w1to	suwito		
yogi	yogi		

Users
More Actions
w1to
More Actions



Local Users and Groups (Local)

- Users
- Groups

Name	Full Name	Description
Administrator		Built-in account for administering the...
agus	agus suwito	programmer
bg_admin	administrasi	
bg_checkup	ruang checkup	
bg_depo	depo tuban	
bg_gigi	gigi	
bg_lab	lab	
bg_loket	loket	
bg_rdl	rdl	
bg_ri	ri	
bg_ugd	ugd	
bg_utama	ruang utama	
budi	budi	
gubernur	gubernur	
Guest	Guest	
igd	igd	
poli_sg3	poli	
saubari	mu	
sentolang1	ser	
sentolang2	ser	
sg2_a	sg	
sg2_b	sg	
sg2_c	Ap	
sg3_a	ap	
sg3_b	ap	
sg3_c	ap	
tbn_pabrik1	pol	
tbn_pabrik2	poli pabrik tuban	
tbn_proyek	proyek sg	
wlto	suwito	
yogi	yogi	

New User [?] [X]

User name:

Full name:

Description:

Password:

Confirm password:

User must change password at next logon

User cannot change password

Password never expires

Account is disabled

Actions

Users	More Actions
wlto	More Actions

lusrmgr - [Local Users and Groups (Local)\Users]

File Action View Help

Local Users and Groups (Local)

- Users
- Groups

Name	Full Name	Description	Actions
Administrator		Built-in account for administering the...	
agus	agus suwito	programmer	
bg_admin	administrasi		
bg_checkup	ruang checkup		
bg_depo	depo tuban		
bg_gigi	gigi tuban		
bg_lab	laboratorium		
bg_loket	loket tuban		
bg_rdl	radiologi		
bg_ri	rawat inap		
bg_ugd	ugd_tuban		
bg_utama	ruang server sobari		
budi	budi setiawan		
demo	demo		More Actions
gubernur			
Guest		Built-in account for guest access to t...	
igd	igd gr		
poli_sg3	polikli		
saubari	much		
sentolang1	sentol		
sentolang2	sentol		
sg2_a	sg2a		
sg2_b	sg2b		
sg2_c	Apotik sg2c		
sg3_a	apotik sg3		
sg3_b	apotik sg3		
sg3_c	apotik sg3		
tbn_pabrik1	poli pabrik tuban		
tbn_pabrik2	poli pabrik tuban		
tbn_proyek	proyek sg		
w1to	suwito		
yogi	yogi		

Context menu for 'demo':

- Set Password...
- All Tasks
- Delete
- Rename
- Properties**
- Help

Setting User

Opens the properties dialog box for the current selection.



- Local Users and Groups (Local)
 - Users
 - Groups

Name	Full Name	Description
Administrator		Built-in account for administering the...
agus	agus suwito	programmer
bg_admin	administrasi	
bg_checkup		
bg_depo		
bg_gigi		
bg_lab		
bg_loket		
bg_rdl		
bg_ri		
bg_ugd		
bg_utama		
budi		
demo		
gubernur		
Guest		
igd		
poli_sg3		
saubari		
sentolang1		
sentolang2		
sg2_a		
sg2_b		
sg2_c		
sg3_a		
sg3_b		
sg3_c		
tbn_pabrik1		
tbn_pabrik2		
tbn_proyek	proyeksg	
w1to	suwito	
yogi	yogi	

demo Properties [?] [X]

General Member Of Profile

Member of:

- Users

Changes to a user's group membership are not effective until the next time the user logs on.

Add... Remove

OK Cancel Apply Help

Actions

- Users
 - More Actions
- demo
 - More Actions



Local Users and Groups (Local)

- Users
- Groups

Name	Full Name	Description
Administrator		Built-in account for administering the...
agus	agus suwito	programmer
bg_admin	administrasi	
bg_checkup		
bg_depo		
bg_gigi		
bg_lab		
bg_loket		
bg_rdl		
bg_ri		
bg_uc		
bg_ut		
budi		
demo		
guber		
Guest		
igd		
poli_s		
sauba		
sentol		
sentol		
sg2_a		
sg2_b		
sg2_c		
sg3_a		
sg3_b		
sg3_c		
tbn_pabrik1		
tbn_pabrik2		
tbn_proyek	proyeksg	
wlto	suwito	
yogi	yogi	

demo Properties

General Member Of Profile

Member of:

- Users

Select Groups

Select this object type: Groups

From this location: EDP1

Enter the object names to select (examples):

Advanced... OK Cancel

Add... Remove

Changes to a user's group membership are not effective until the next time the user logs on.

OK Cancel Apply Help

Actions

Users

More Actions

demo

More Actions



Name	Full Name	Description
demo	demo	Built-in account for administering the...
programmer	programmer	

Actions

Users

More Actions

demo Properties

General Member Of Profile

Member of:

Users

Add... Remove

Changes are not reflected in user logs

OK Cancel

Select Groups

Select this object type:
Groups

From this location:
EDP1

Enter the object names to select

Advanced...

Select Groups

Select this object type:
Groups

From this location:
EDP1

Common Queries

Name: Starts with

Description: Starts with

Disabled accounts
 Non expiring password

Days since last logon:

Columns... Find Now Stop

OK Cancel

- sg3_c
- tbn_pabrik1
- tbn_pabrik2
- tbn_proyek
- w1to
- yogi

Search results:

Name (RDN)	In Folder
------------	-----------



Local Users and Groups (Local) | Name | Full Name | Description | Actions

demo Properties | ? | X | built-in account for administering the... programmer

General | Member Of | Profile

Member of:

Select Groups

Select this object type: Groups

From this location: EDP1

Common Queries

Name: Starts with

Description: Starts with

Disabled accounts

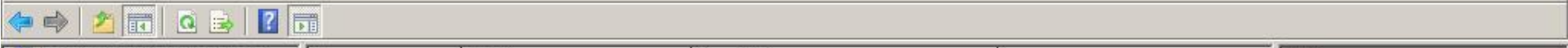
Non expiring password

Days since last logon:

Columns... Find Now Stop

Search results:

Name (RDN)	In Folder
Performance Monitor Users	EDP1
Power Users	EDP1
Remote Desktop Users	EDP1
Replicator	EDP1
TelnetClients	EDP1
Users	EDP1



Name	Full Name	Description
------	-----------	-------------

Name	Full Name	Description
demo	demo	built-in account for administering the... programmer

Actions

Users

More Actions

demo Properties

General Member Of Profile

Member of:

Users

Add... Remove

Changes to a user's group membership are not effective until the next time the user logs on.

OK Cancel Apply Help

Select Groups

Select this object type:
Groups Object Types...

From this location:
EDP1 Locations...

Enter the object names to select (examples):
EDP1\Remote Desktop Users Check Names

Advanced... OK Cancel

sg3_c	apotik sg3
tbn_pabrik1	poli pabrik tuban
tbn_pabrik2	poli pabrik tuban
tbn_proyek	proyek sg
wlto	suwito
yogi	yogi



Local Users and Groups (Local)

- Users
- Groups

Name	Full Name	Description
Ac		
ag		
bg		
bg		
bg		
bg		
bg		
bg		
bg		
bg		
bu		
de		
gu		
Gu		
igc		
po		
sa		
se		
se		
sg		
sg		
sg		
sg		
sg		
sg3_c	apotik sg3	
tbn_pabrik1	poli pabrik tuban	
tbn_pabrik2	poli pabrik tuban	
tbn_proyek	proyek sg	
w1to	suwito	
yogi	yogi	

demo Properties

General Member Of Profile

Member of:

- Remote Desktop Users
- Users

Add... Remove

Changes to a user's group membership are not effective until the next time the user logs on.

OK Cancel Apply Help

Actions

Users


More Actions

Membuat Aplikasi

Administrator tools | Management of Published Applications | Assigning applications to users or groups

- [-] [x] **Server administration tools**
 - ➔ Task manager
 - ➔ Terminal Services Manager
 - ➔ Users and Groups management
 - ➔ Group Policies (GPO)
 - ➔ Services
 - ➔ Server properties
- [-] [x] **TSplus server tools**
 - ➔ Manage HTTP server
 - ➔ Change RDP port (3389)
 - ➔ TSplus Desktop Taskbar management
 - ➔ Loadbalancing and failover
 - ➔ Edit .INI parameters files
 - ➔ Edit the PC names list (firewalled)
- [-] [x] **System informations**
 - ➔ Check the server license
 - ➔ Backup your server parameters
 - ➔ Restore your server parameters
 - ➔ Events logs
- [-] [x] **Optimisation and log user's connections**
 - ➔ Debug log file management
 - ➔ user's logon/disconnect/logoff log file
- [-] [x] **TSplus Client generators**
 - ➔ **Client Generator**
 - ➔ Global parameters for generated clients

Information messages



The wrapped client can be copied on users Desktop or on a USB stick for nomad users

Server advanced security options

- Firewall sessions using user PC names
- Deny access from Microsoft RDP client
- Limit access to the members of Remote Desktop Users
- Encrypts client/server communication FIPS-Compliant
- Allow only one open session per user
- Block all incoming access to this server

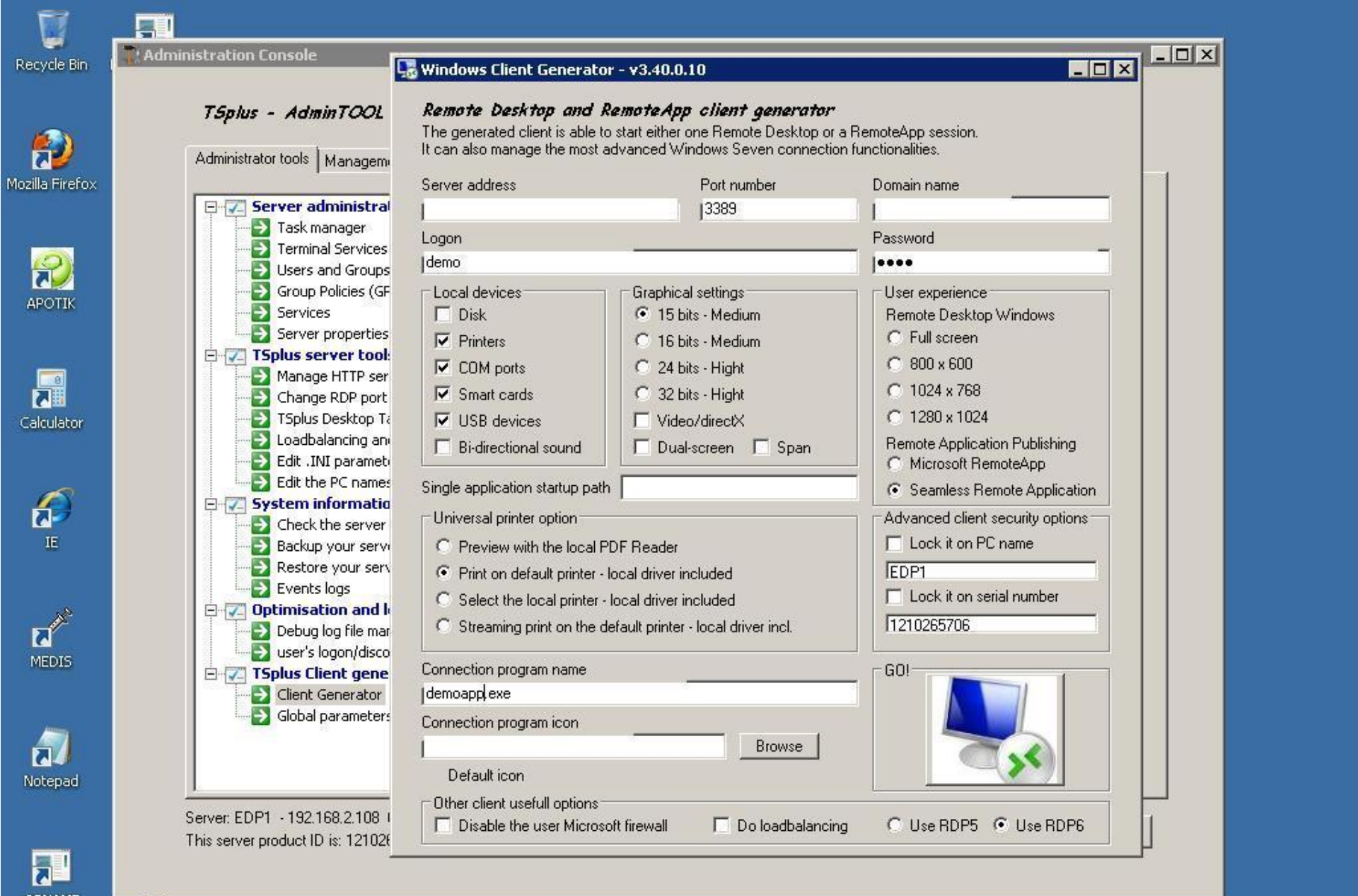
Hide disk drives Close disconnected users after a delay of (seconds)

Seamless color settings Select preferred language

Display the server WAN IP Language selection

Server: EDP1 - 192.168.2.108 Connections: 16/9999 users Release 3.40.00.10
 This server product ID is: 12102684 [Warning: Changing the server name will invalidate the license]

Exit



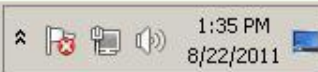
Setting aplikasi



Remote Desktop Client [X]

The Remote Desktop client client has been copied on your Desktop

OK



TSplus - AdminTOOL

Membuat menu aplikasi

Administrator tools | Management of Published Applications | Assigning applications to users or groups



- Add Add one application
- Remove Remove the selected application
- Run... Start this application to test it

Display Name Path/Filename Start Directory Command line option Launch this application maximized Assign this application to All Users Launch this application minimized Launch and Hide this application

Server: EDP1 - 192.168.2.108 Connections: 16/9999 users Release 3.40.00.10

This server product ID is: 12102684 [Warning: Changing the server name will invalidate the license]

TSplus - AdminTOOL

Administrator tools | Management of Published Applications | Assigning applications to users or groups

Application Control: You can assign applications to users or Groups' members and you have the choice between 3 possible wizards.
Select the most suitable one: Per user, Per Group or Drag and Drop



Option 1: Drag and Drop

Assign applications using a Drag and Drop graphical user interface

Drag and Drop applications

Option 2: assign per user

Assign applications to each users (local users) for Domain users edit AppControl.ini

Assign applications per User

pilih option 2

Option 3: assign per group

Assign applications to Group members (Local or Domain groups)

Assign applications per Group

 User client automatic update release option

Server: EDP1 - 192.168.2.108 Connections: 16/9999 users Release 3.40.00.10

This server product ID is: 12102684 [Warning: Changing the server name will invalidate the license]

Exit

TSplus - AdminTOOL

Administrator tools | Management of Published Applications

Application Control: You can assign applications to use and you have the choice between 3 possible wizards. Select the most suitable one: Per user, Per Group or Drag and Drop

Option 1: Drag and Drop

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Option 2: assign per user

Assign applications to each users (local users) for Domain users edit AppControl.ini

Option 3: assign per group

Assign applications to Group members (Local or Domain groups)

User client automatic update release option

Application Control

- Administrator
- agus
- bg_admin
- bg_checkup
- bg_depo
- bg_gigi
- bg_lab
- bg_loket
- bg_rdl
- bg_ri
- bg_ugd
- bg_utama
- budi
- demo**
- gubernur
- igd
- poli_sg3
- saubari
- sentolang1
- sentolang2
- sg2_a
- sg2_b
- sg2_c
- sg3_a
- sg3_b
- sg3_c
- tbn_pabrik1
- tbn_pabrik2
- tbn_proyek
- w1to
- yogi

- Selected Application for this user
- Microsoft Remote Desktop
 - TSplus Remote Taskbar
 - FloatingPanel
 - MEDIS
 - APOTIK
 - SPB
 - TVNCViewer
 - Notepad
 - SQLAdvance
 - OPNAME
 - SUB GUDANG
 - IE
 - PPL RR
 - Calculator
 - REKAM MEDIS
 - Sysbase Central
 - RDP
 - PB11
 - TsPlus Admin

This tool is made to assign application to your local users. We enable also to assign applications to Domain users. For Domain users, just edit the AppControl.ini file and to add users names (case sensitive) on the requested application section.

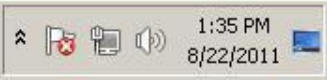
Server: EDP1 - 192.168.2.108 Connections: 16/9999 users Release 3.40.00.10
 This server product ID is: 12102684 (Warning: Changing the server name will invalidate the license)

OPNAME RDP



Remote App

	MEDIS
	APOTIK
	TVNCViewer
	Notepad
	IE
	Logoff





Seamless

Connecting to...

54 %



○ Logging off...

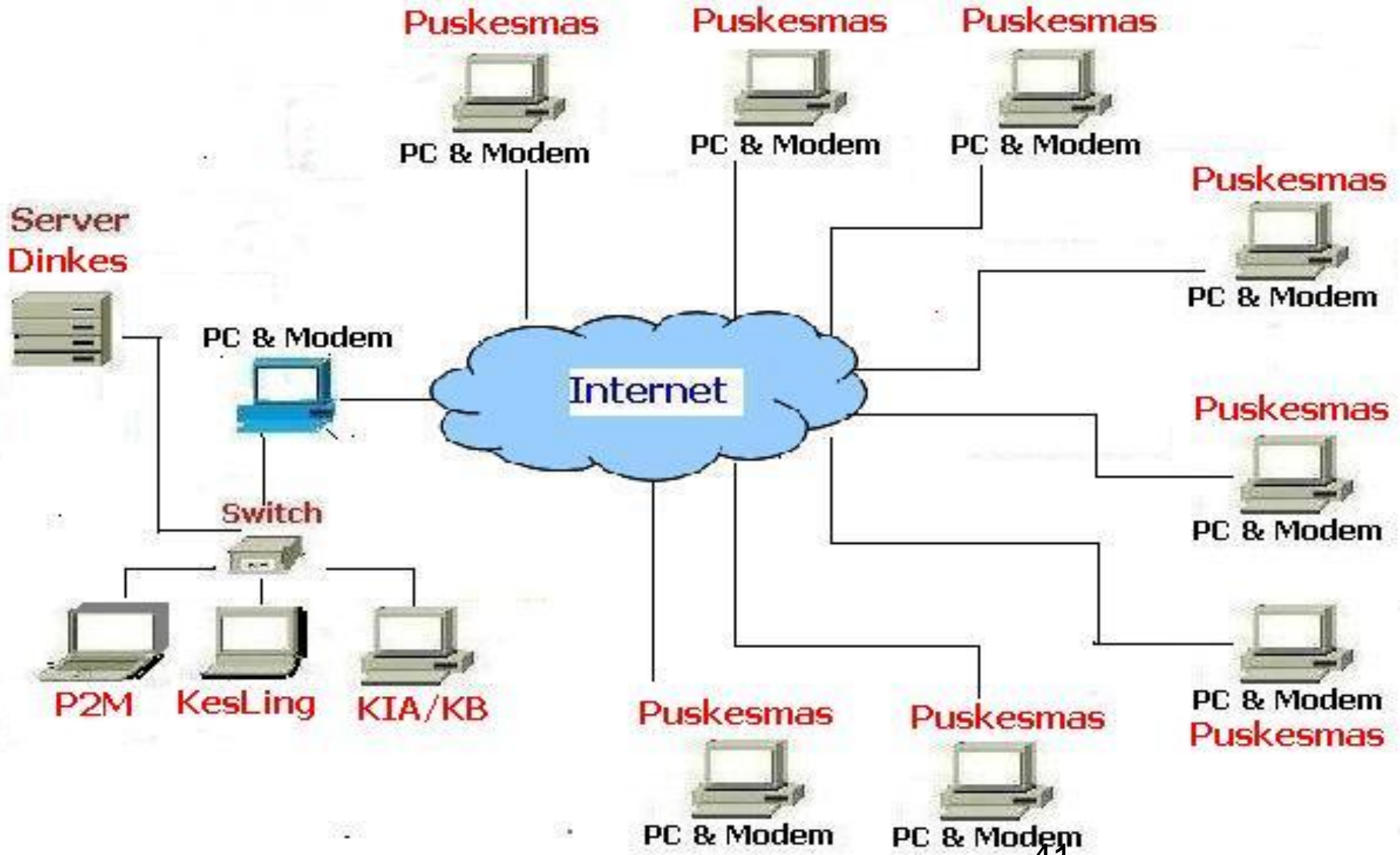


Biaya Pulsa (Koneksi)

Jumlah komputer	Biaya/Bulan
PC tunggal	Rp 50.000,-
2-3 PC	Rp 100.000,- s.d Rp 150.000,-
4-12 PC	>Rp 700.000,-

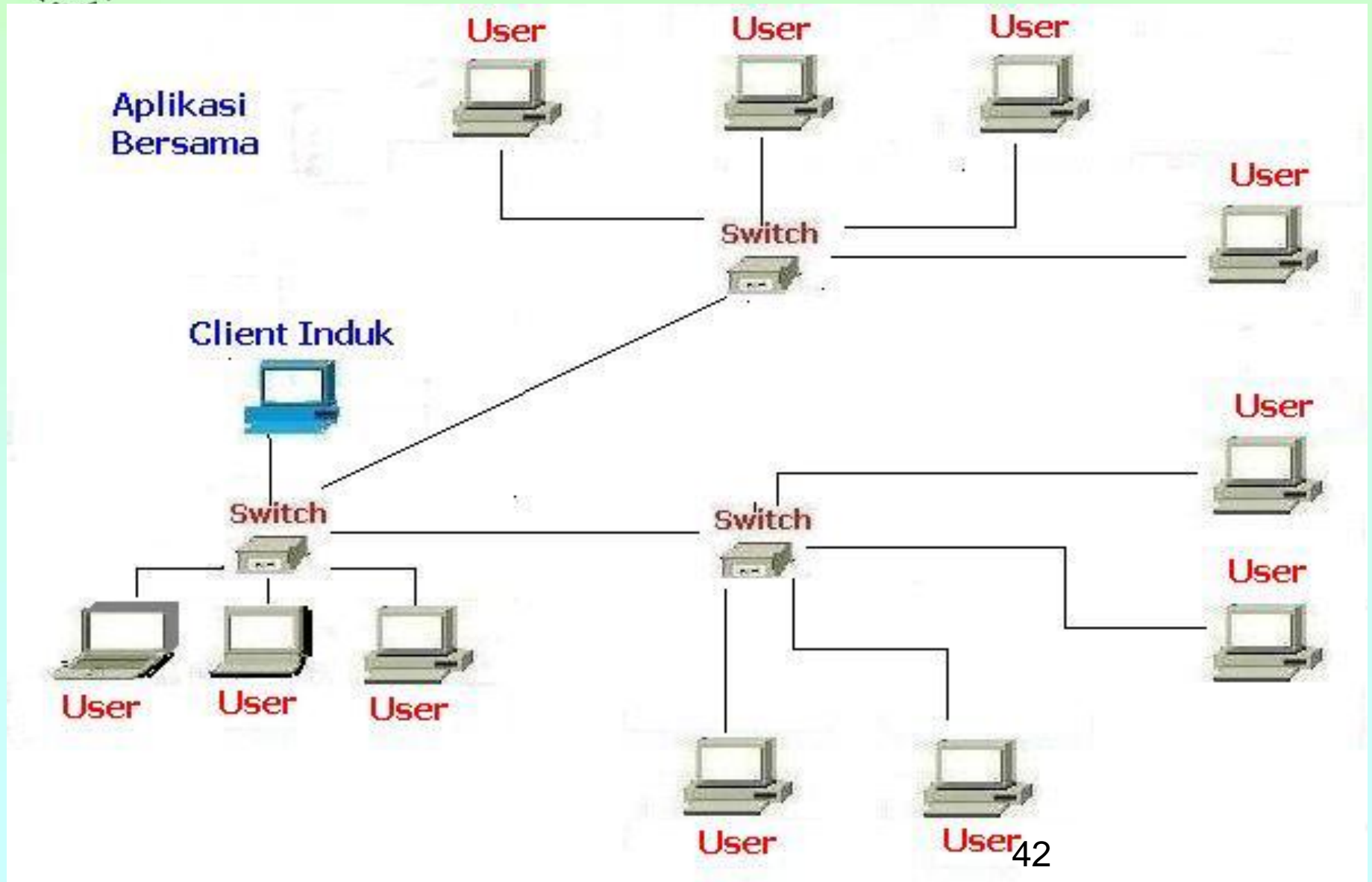


Manfaat Lain Remote Application





Manfaat Lain Remote Application





Terima Kasih-Semoga bermanfaat

RS Semen Gresik menggunakan Sistem Informasi (HIS) yang di-develop sendiri menggunakan **Novell-FoxBase** sejak berdiri tahun 1995 dan migrasi ke *software* baru (**Sybase-Power Builder**) tahun 2003 sampai sekarang. Implementasi lainnya :

- Info biaya rawat inap via SMS (*SMS Gateway*),
- Access point (HotSpot/Wi-fi),
- **Laboratory Information System**,
- LAN sampai jarak 2 km via Modem ADSL2+
- On line Gresik-Tuban (± 100 km) dgn *Remote Applications*.

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