

SENA

One-Stop Solution in Device Networking

VTS





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VTS

- VTS
- VTS
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- / Server farm
- 가
- - , , ,



- - 가
- 가 -
- - 가
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- 가
- / 가
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• IT

가

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• /

가

가

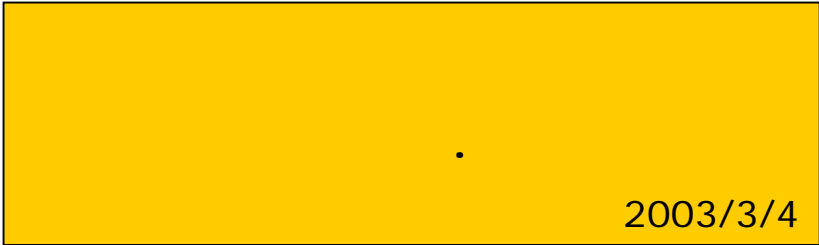
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가.



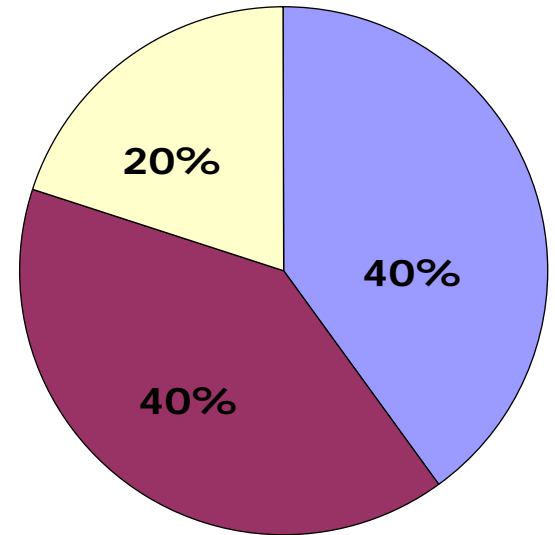
2003/3/4

가 : 2,1 (IT 가 (0.3%)

IT	()	25
	IT (/)	35
	IT ()	875
	IT (/)	21,000
	()	500
	()	50
	(/)	35
	()	1,750
	(/)	120,000
	()	120,000
	()	5,000
	(/)	120,000
	()	183,000

()

	,	/
	,	OS



(: 가)

- - (LAN or WAN)
 - SNMP
 - HP OpenView, IBM Tivoli, BMC Patrol
- -
 - 60%
 - 20%

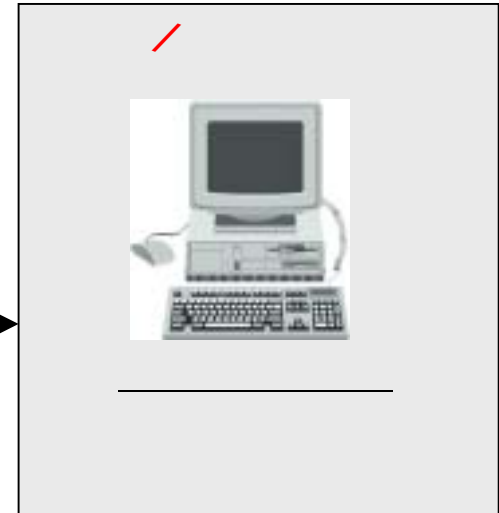
	Unix - Telnet,SSH,X-Windows, ...	UI
	Windows - MS Terminal Service, PC Anywhere, Carbon Copy, ...	
KVM	KVM , KVM over IP	KVM , 가 ,
	'COM', 'AUX', 'Console' , BIOS, OS Console	, 가
		/ 가 ,



- /
- /PC
- : , , , , ...
- : UPS,
- : PBX, , ...
- : , HVAC, , , ...



- :
- 가 : , 가
- : BIOS, OS
- :
- : 가 가



Port#	Port Title	Mode	Port#	Port Title	Mode
1	Server on Port 81	00	2	Server on Port 80	00
3	Server on Port 83	00	4	Server on Port 84	00
5	Server on Port 85	00	6	Server on Port 86	00
7	Server on Port 87	00	8	Server on Port 88	00
9	Server on Port 89	00	10	Server on Port 810	00
11	Server on Port 811	00	12	Server on Port 812	00
13	Server on Port 813	00	14	Server on Port 814	00
15	Server on Port 815	00	16	Server on Port 816	00
17	Server on Port 817	00	18	Server on Port 818	00
19	Server on Port 819	00	20	Server on Port 820	00
21	Server on Port 821	00	22	Server on Port 822	00
23	Server on Port 823	00	24	Server on Port 824	00
25	Server on Port 825	00	26	Server on Port 826	00
27	Server on Port 827	00	28	Server on Port 828	00
29	Server on Port 829	00	30	Server on Port 830	00
31	Server on Port 831	00	32	Server on Port 832	00

Enter the serial port (1-32) address for each ()

-
- /
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-

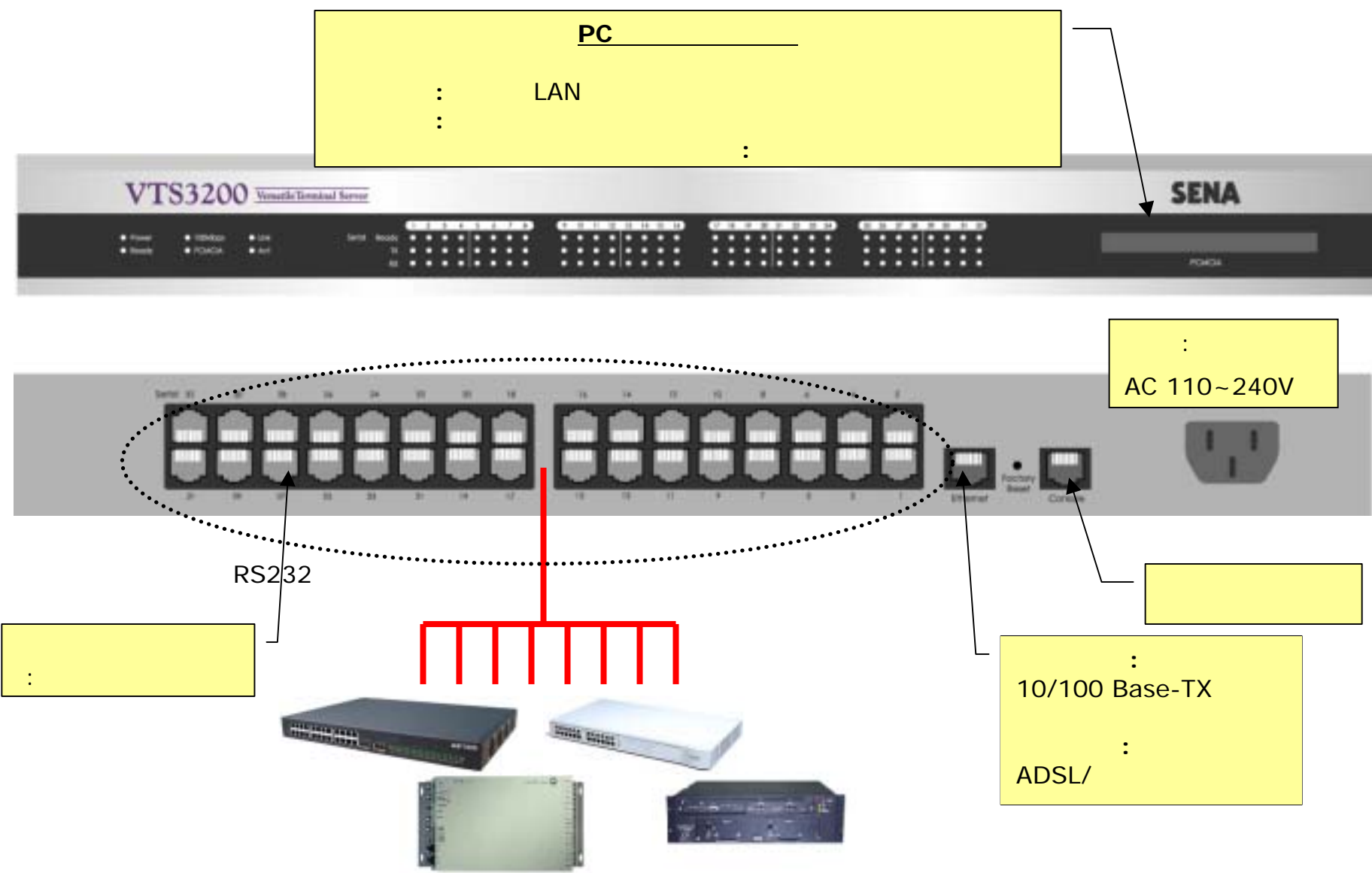
가

VTS

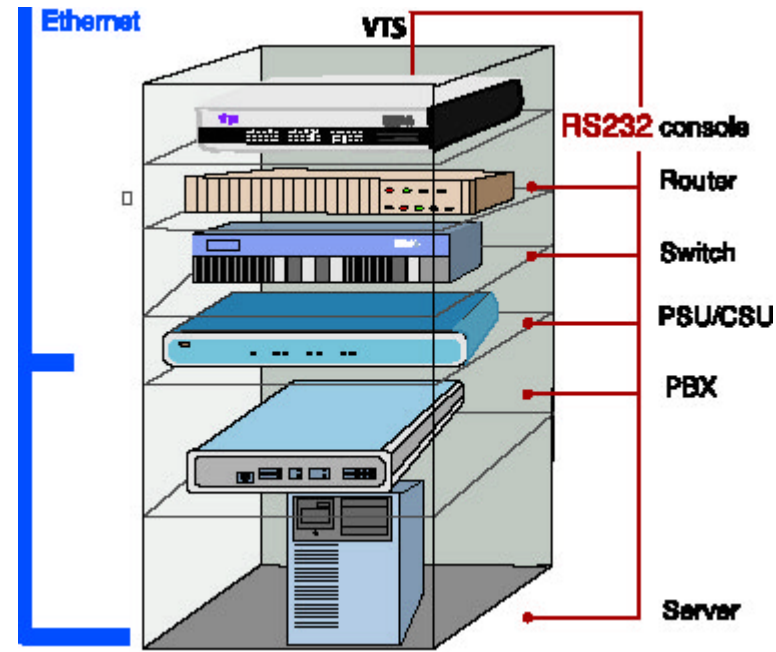
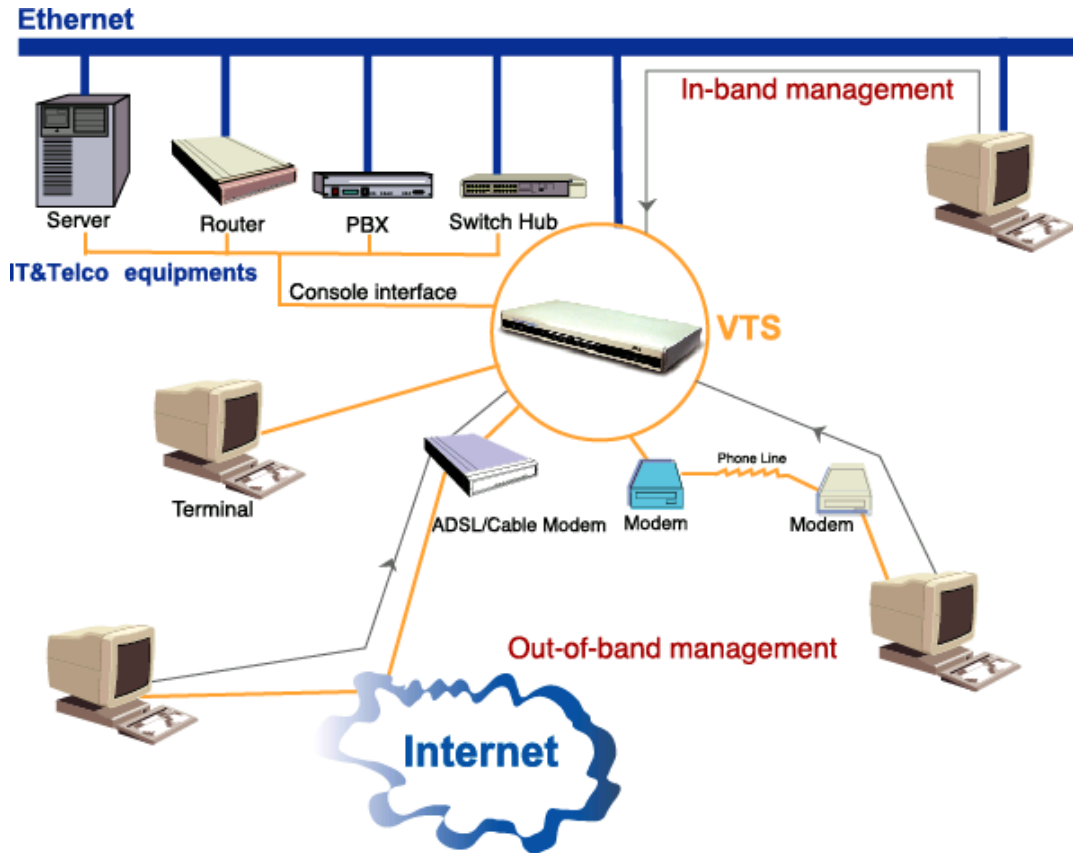
- /
 - LAN LAN
 - (ADSL/Cable)
- (/telnet/Web)
 - Linux (/telnet)
- (/ATA /NFS/Syslog) sniffing
 -
- PC Card**
 - : ATA
 - : LAN/
- Authentication: SSH v1&v2, RADIUS, LDAP, TACACS+, (Kerberos)
 - : admin, port admin, user
 -
 - IP



VTS :



VTS :

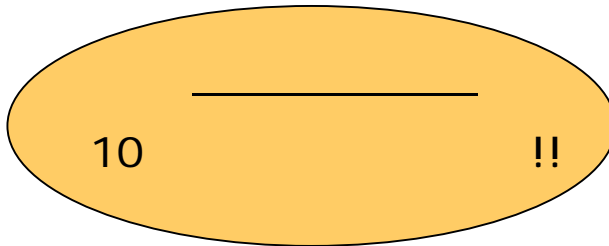


VTS :



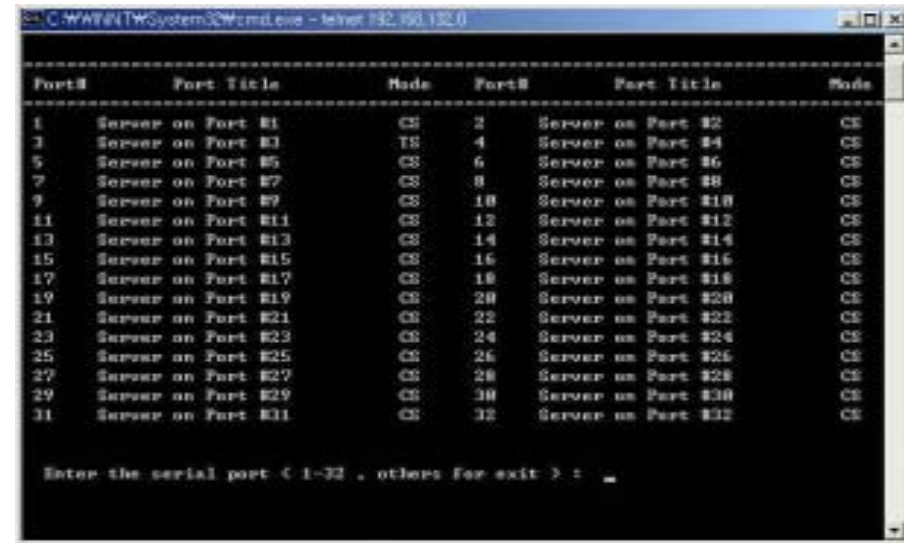
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- Telnet, SSH

- VTS



VTS :

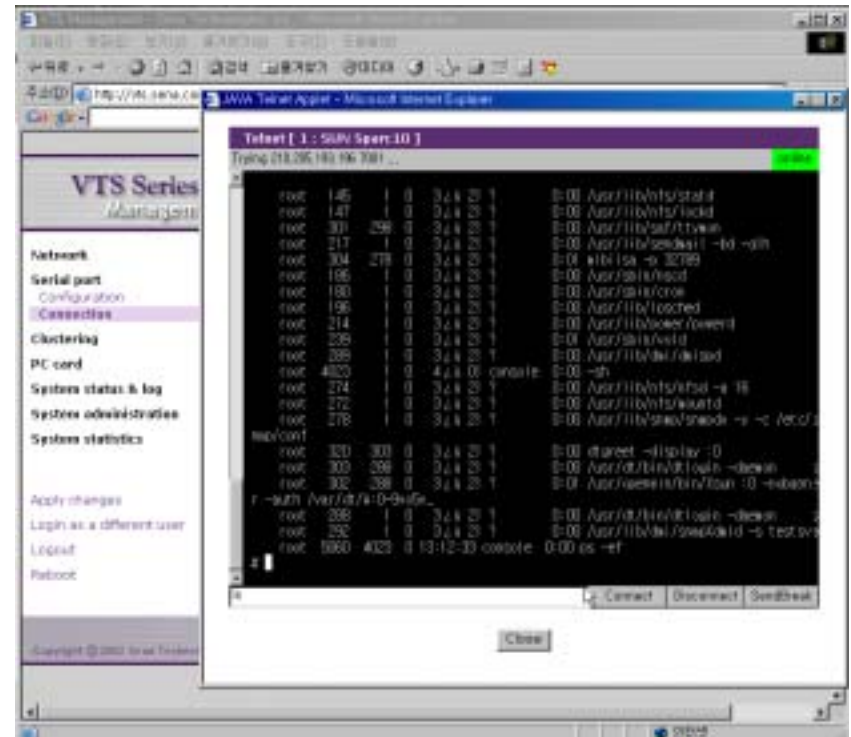


- telnet/SSH
- VTS






-
-

telnet/SSH



☐ Cisco Sun Netra Ethernet Straight 가 !

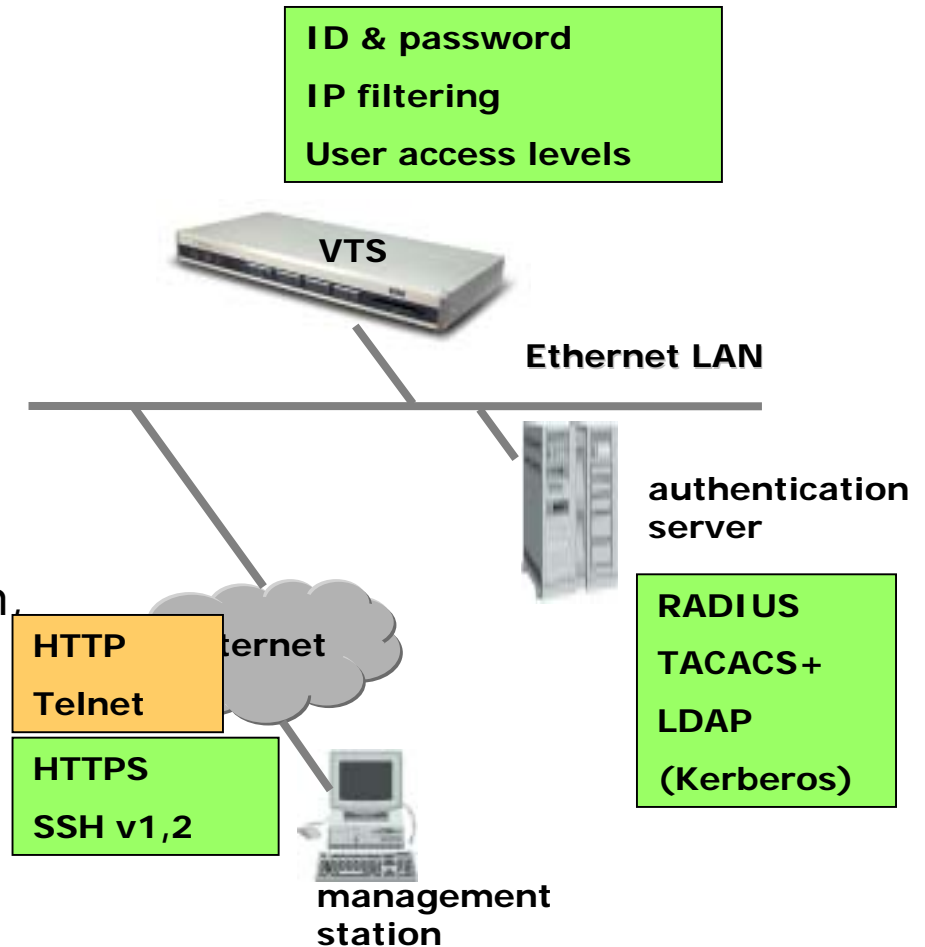
Devices	Serial port type	Use
Cisco equipments  Sun Netra servers 	RJ45	Ethernet cable
Nortel equipments Other DB9 DTE devices	DB9 male	Ethernet cable + RJ45-DB9F cross-over adapter
Sun Sparc servers  Other DB25 DTE devices	DB25 female	Ethernet cable + RJ45-DB25M cross-over adapter
Serial printers DB25 DTE devices	DB25 male	Ethernet cable + RJ45-DB25F cross-over adapter
Modem ISDN terminal adapters	DB25 male	Ethernet cable + RJ45-DB25M straight adapter



-
- PSTN
 -
 - PC
- DSL :
 -
 - PCMCIA
- Wireless : 802.11d
 - PCMCIA
- - VTS

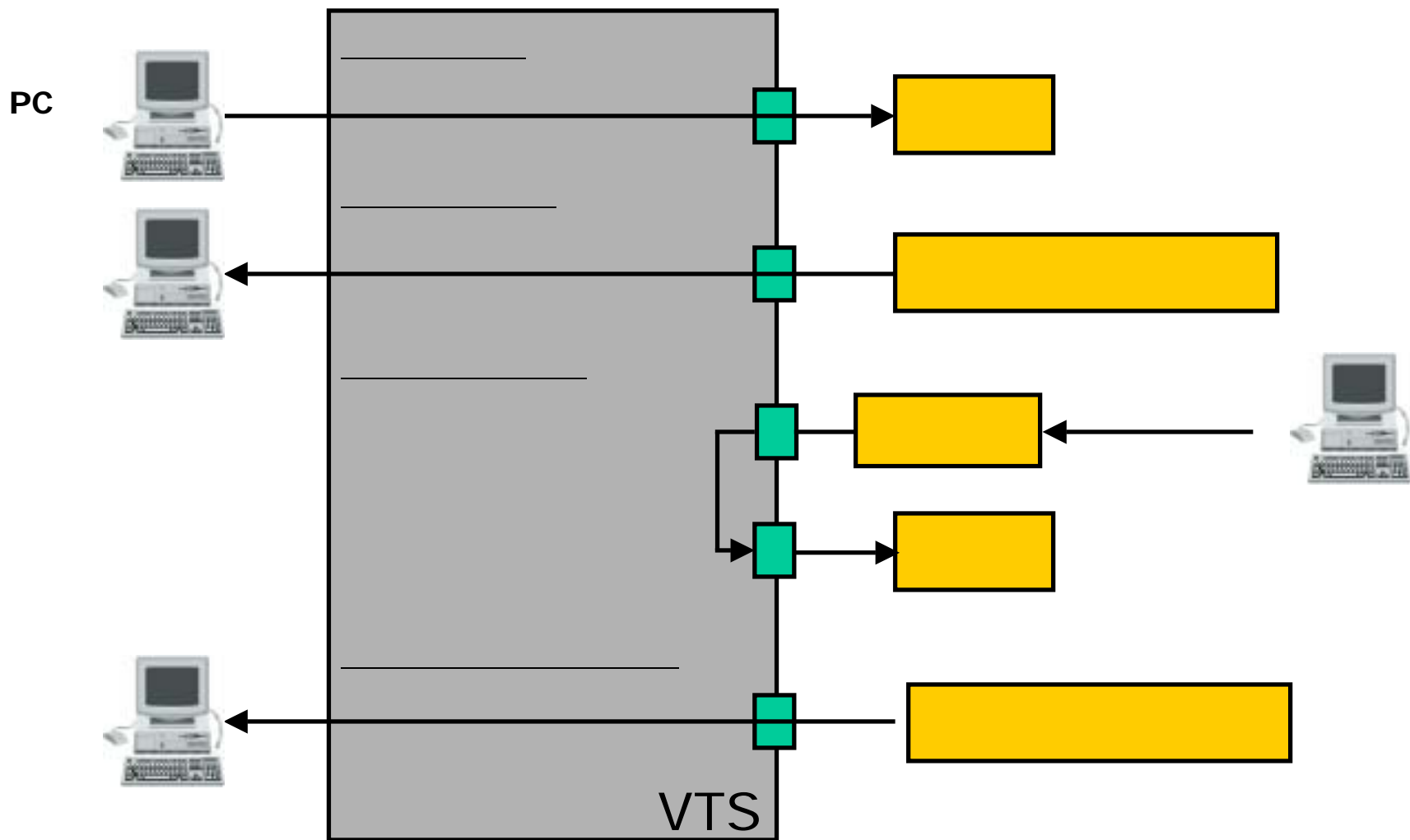
VTS :

- - SSH v1,2
 - HTTPS
- - local
 -
- IP ()
- - root, system admin, port admin, user
- - 가/
 - Sniff mode



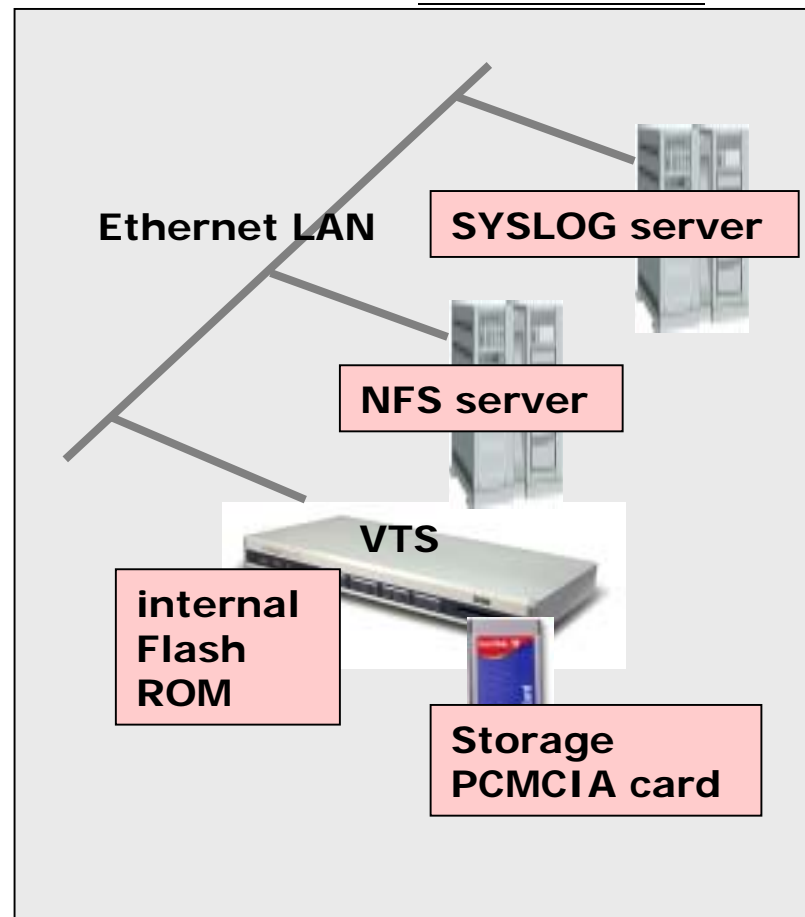
VTS :

가 :



VTS :

- -
 - PCMCIA
 - Syslog
 - NFS
- -
 -
- -
 - (email, SNMP trap)
- -
 -





- 가/ /
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- , , , ...



- 가
- ,

VTS :



Master VTS

16

Slave VTS

-

IP



VTS	
→ Master:	211.112.67.34 (IP)
→ Master	: 211.112.67.34: 6000~6031
→ Slave 1	: 211.112.67.34:8000~8031
→ Slave 2	: 211.112.67.34:9000~9031



Remote PC



Internet

192.168.1.101
(211.112.67.34)

Master

Master TCP port
8000~8031, 9000~9031

Network

TCP ports
6000~6031

TCP ports
6000~6031

Port forwarding

Master TCP port 8000~8031
→
Slave 1 TCP port 6000~6031

Master TCP port 9000~9031
→
Slave 1 TCP port 6000~6031

Slave 1

192.168.1.102

Slave 2

192.168.1.103

Ethernet

Manufacturer	Model/Name	VTS probed Model name	Specification
3COM	3CXE589ET-AP	3Com Megahertz 589E TP/BNC LAN PC Card	10 Mbps LAN card
LinkSys	EtherFast PCM100	LinkSys EtherFast PCM100 LAN PC Card	10/100 Mbps LAN card

ATA Flash

Manufacturer	Model/Name	VTS probed Model name	Specification
Advantech	CompactFlash	CF 48M	48 MB Flash card
SanDisk	SDP series	SunDisk SDP 5/3 0.6	64 MB Flash card
Kingston	CompactFlash Storage Card	TOSHIBA THNCF064MAA	64 MB Flash card
Viking	CompactFlash	TOSHIBA THNCF064MBA	64 MB Flash card

Wireless LAN

Manufacturer	Model/Name	VTS probed Model name	Specification
Disco Systems	AIR-PCM340/Aironet 340	Cisco Systems 340 Series Wireless LAN Adapter	11 Mbps Wireless LAN Adapter

Modem

Manufacturer	Model/Name	VTS probed Model name	Specification
Billionton Systems Inc.	FM56C series	PCMCIA CARD 56KFaxModem FM56C-NFS 5.41	Ambient (Intel) V.90 FAX/MODEM PC Card
Viking	PC Card Modem 56K	Viking V.90 K56flex 021 A	MODEM PC Card
KINGMAX	KIT PCMCIA 56K Fax/Modem Card	CIRRUS LOGIC 56K MODEM CL-MD56XX 5.41	V.90 FAX/MODEM PC Card

□ (+ 32 CPU)

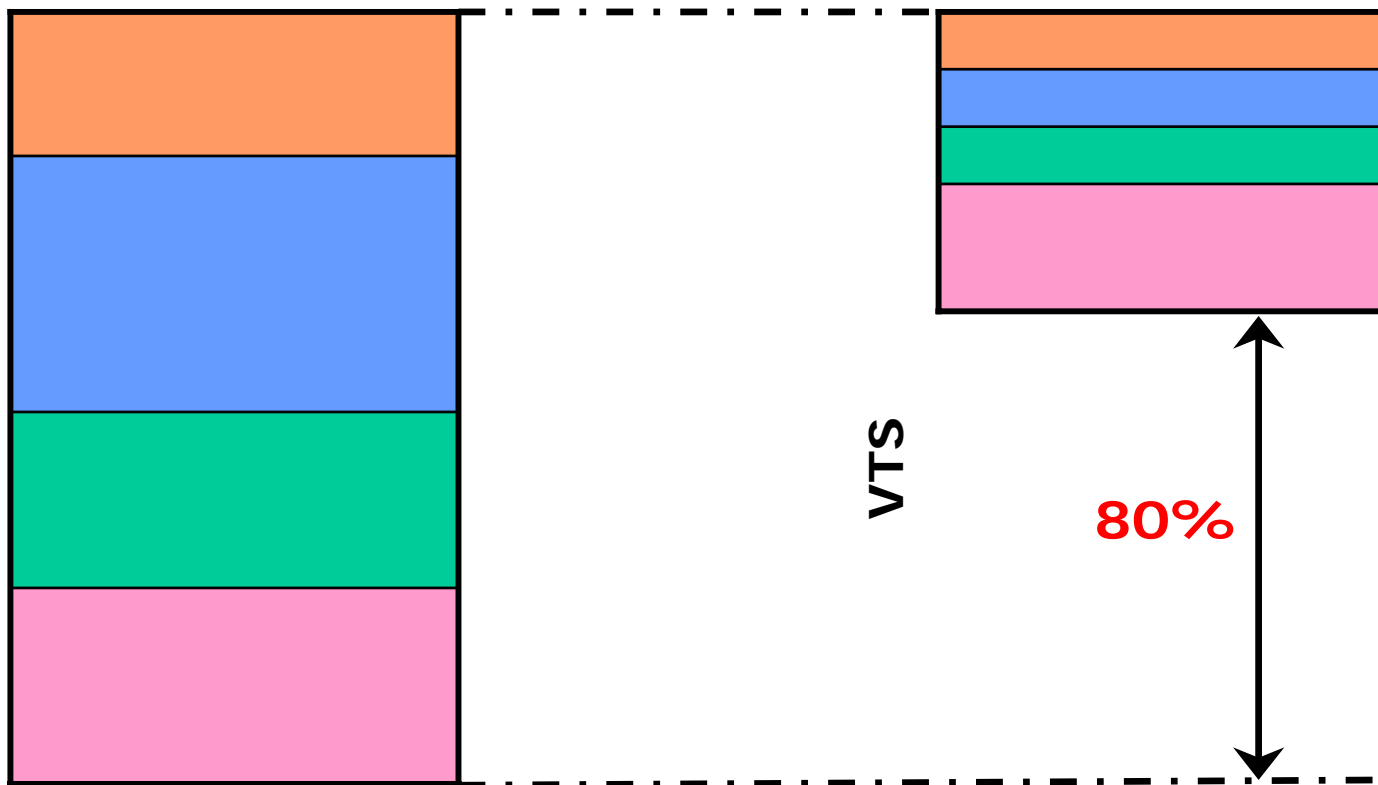
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□ 가 가

Add your value to VTS !

: 가

가 (Uptime)



VTS가

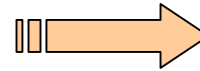
(ROI):

64 VTS :
6 (가 10)

가

	2
()	1
(/)	24

(183)



가

()	48
(%)	80

(6)

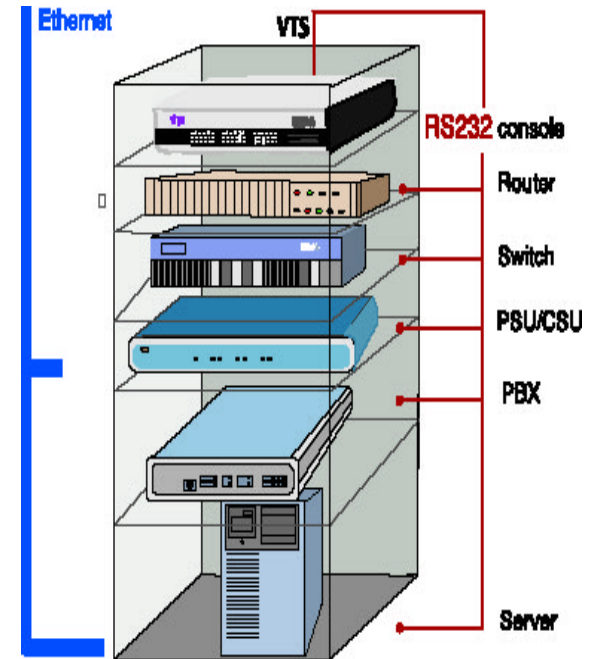
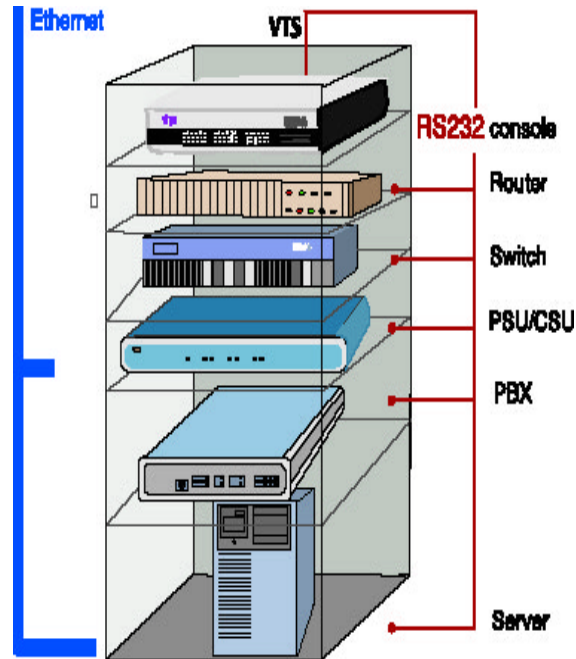
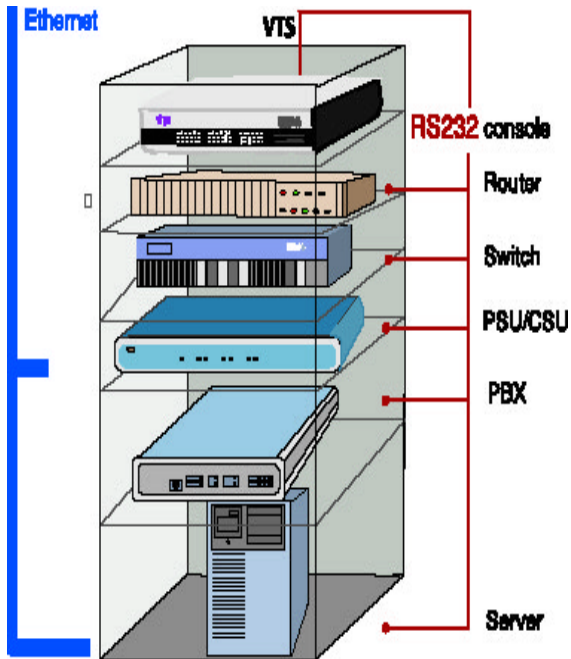
(146.4)

	146,400,000
	6,000,000
ROI	2,440%

VTS

□ IDC

- : / / / ...
- VTS : / / / ...



VTS



- : CSU/DSU
- : PC
- VTS :

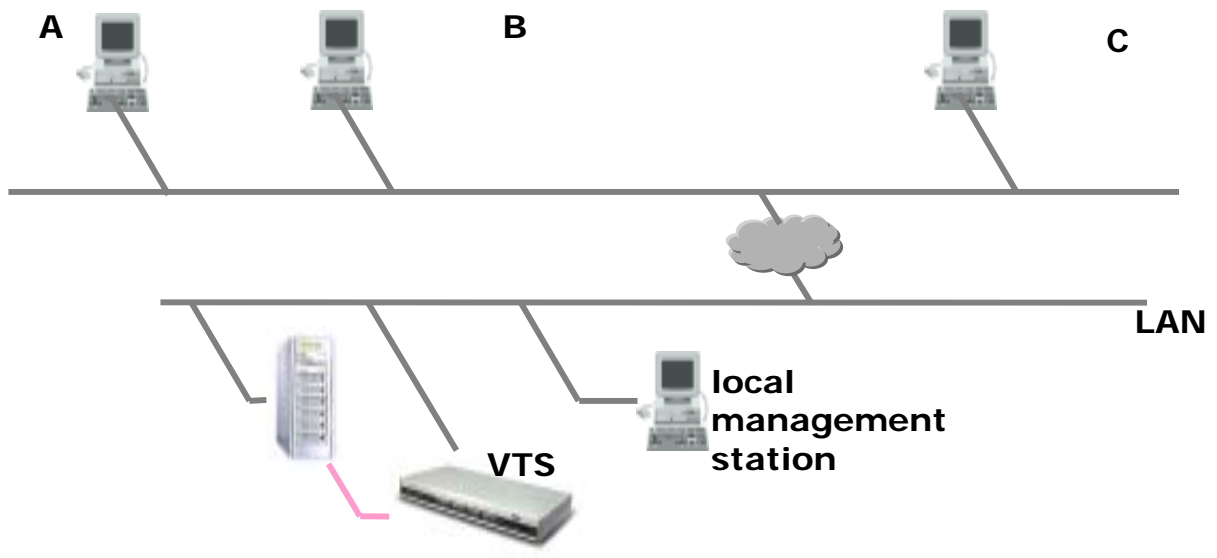


VTS



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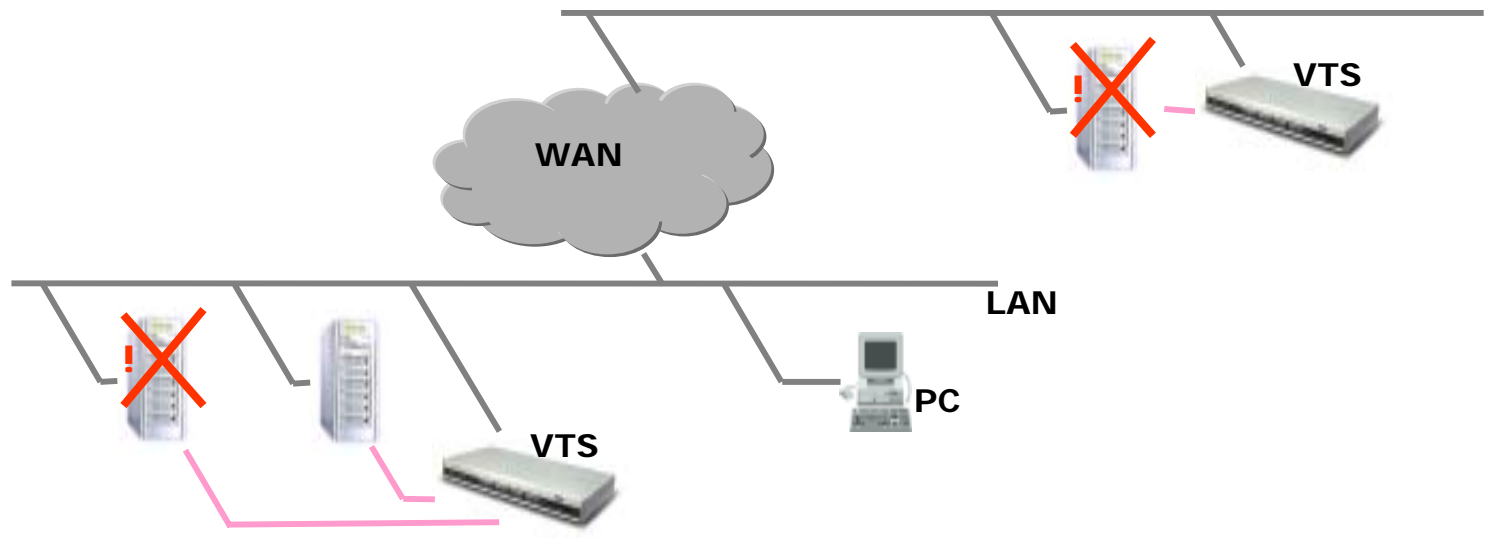
- :
- VTS :



VTS

□ IT

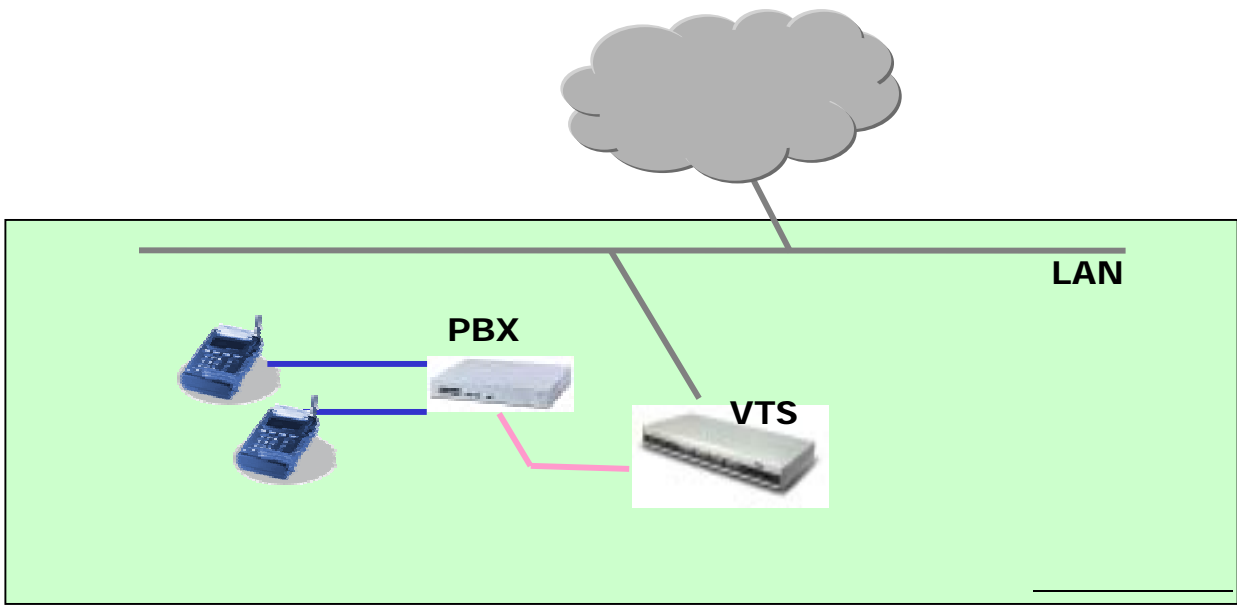
- :
- : SNMP->가
- VTS :



VTS



- : PBX
- :
- 가
- VTS : 가 가



VTS

VTS

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