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5.2 (2,5) (

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	5.2	:	20	20	44	4

	()	5.2 (20)
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.1. Systems (2 .). .2.				Cisco
Cisco Systems, No	ortel Networks	, Foundry.		(2).
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.3.				(2)
.4.	VPN-	(2 .).		- (2 .). VPN
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IV.

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AutoCAD.

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			NetCracker Professional	
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	•	(:)	
	• peer-to-peer	•	PSTN.	voice over IP
	• small office p	eer-to-peer	PSTN.	
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     2.
NetCracker Proffesional.
     3.
                                                ) NetCracker Proffesional
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           InterLAN traffic
                                 Small InterLAN traffic
                                                         100 .,
              500 .).
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• $S : S = \times 4^{-2},$

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 $S = \sum_{i=1}^{n} S \times 0,007,$

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3.4.5.	MUTOA.	
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2.6
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                                           NetCracker Proffesional
      3. 3.1
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      7.2
      7.3
      7.4
      7.5
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NetCracker Professional

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File Server -
     SQL Server - SQL
     Small office database server -
     FTP Server - FTP
                                                                «
                                                      (File Transfer Protocol,
    ».
FTP),
                                                    Internet.
     E-mail Server -
     HTTP Server - HTTP
                                                                       web-
                         HTTP-
(Hyper Text Transfer Protocol, HTTP).
                                                           Intr net, Extranet,
                                           ».
                                  Net Cracker Professional
                                                        - 10
     CAM/CAD -
                                      (
                                 );
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);

);

Database –

-10

E-mail -

-15

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(
     FTP client -
                                                       - 1
                                );
              - 1
     Small office –
                                 - 50
-10
                                                     );
     HTTP client -
                                         (web-
                                                     ) (
                                 -5
1,5
                                                    );
     LAN peer-to-peer traffic -
                                 - 10
(
                                                                      - 20
     - ) (
           );
     InterLAN traffic -
                                                                - 1
                                          );
                      -30
     Small InterLAN traffic -
          -10
                                           - 5
                                                             );
     File Server's client -
                                          - 3
          - 1
                                                             );
     Small office database server's client –
                                                              - 10
                             -20
        );
     SQL server's client –
                                          SQL-
0,5
                                -15
                                                    );
     Small office peer-to-peer -
                                        - 10
                     (
5
                 ));
     Voice over IP peer-to-peer -
(
                 -10
                                                   -2
                                                                      );
     E-mail (SMTP) -
                                                                    TCP/IP
                                                   -4
                 -1,5
(
                                                                      ).
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1. (Switch)

	– Nortel Networks (,)					
		-	-			
-	-					
		12	IEEE 802.1D	HTTP; RMON; SNMP		
BayStack	-	Ethernet	() IEEE 802.3	: Ethernet 10baseT		
304		10baseT	(Ethernet)	- 3/4/5 UTP	1	
		RJ-45 FastEthernet	IEEE 802.3i IEEE 802.3u	- 10 - 100	/	
		100BaseTx	(Fast Ethernet)	Ethernet 100BaseTX		
		RJ-45	(I ast Ethernet)	– 5UTP		
		100.0		100	/	
				_ 100		
		24	IEEE 802.1D			
		(28 .)	()	- RMON; SNMP; Telnet		
		77.1	IEEE 802.1p	MAC	16000	
Business	-	Ethernet 10/100	(Prioritizing)	Ethomat 10haarT		
Policy		BaseT	IEEE 802.1Q (VLAN)	Ethernet 10baseT - 3/4/5 UTP		
		RJ-45	IEEE 802.3	- 3/4/3 011 - 10	/	
		10 15	(Ethernet)	100	,	
			IEEE 802.3i	Ethernet 100BaseTX		
			IEEE 802.3u	– 5UTP		
			(Fast Ethernet)	_ 100	/	
			WEEE 002 15	_ 100		
		24	– IEEE 802.1D	2.50		
		24	() - IEEE 802.1p	2,56 / . MAC		
		Ethernet	(Prioritizing)	16000		
	_	10/100	– IEEE 802.1Q	:		
BayStack		BaseT	(VLAN)	Ethernet 10baseT		
460-24T	-	RJ-45	– IEEE 802.3	– 3/4/5 UTP		
			(Ethernet)	- 10	/ .	
			– IEEE 802.3ad	- 100 E41 - 4 100D - TV		
			(Ethernet 100BaseTX – 5UTP		
			/ - IEEE 802.3af	- 30 IP - 100	,	
			(power over ethernet)		′	
			– IEEE 802.3u (Fast			
			Ethernet)	148810 /		
			– IEEE 802.3z			
			(Gigabit Ethernet)			

	- Nortel Networks (,)				
-		-			
Passport 1424T	_	24 Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45 2 x GBIC	- IEEE 802.1p (Prioritizing) - IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet)	HTTP; SNMP : Ethernet 10baseT - 3/4/5 UTP - 10 / 100 Ethernet 100BaseTX - 5UTP - 100 / 100 - 6.6 Mpps	
Passport 8324GTX	-	24 Ethernet 10/100/1000 BaseT RJ-45	- IEEE 802.3 (Ethernet) - IEEE 802.3ab (TP Gigabit Ethernet) - IEEE 802.3u (Fast Ethernet)	Gigabit Ethernet Fast Ethernet Ethernet	
		_	SureCom (,)	
EP- 805XS	<u>-</u>	5 Ethernet 10/100 BaseT RJ-45 (half / full duplex mode)	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) - IEEE 802.3x (Flow Control)	MAC 2000 store-and-forward (
EP- 808SX	-	8 Ethernet 10/100 BaseT RJ-45	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) - IEEE 802.3x (Flow Control)	100 / MAC 2000 Fast Ethernet Ethernet	

	- SureCom (,)				
-		-		MAC	
EP- 816DX	_	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) - IEEE 802.3x (Flow Control)	8000 : Ethernet 10baseT - 3/4/5 UTP - 100 - 100 Ethernet 100BaseTX - 5UTP - 100 / 100	
EP- 808AG		8 Ethernet 10/100/1000 BaseT RJ-45	- IEEE 802.3 (Ethernet) - IEEE 802.3ab (TP Gigabit Ethernet) - IEEE 802.3u (Fast Ethernet) - IEEE 802.3x (Flow Control)	: Ethernet 10baseT - 3/4/5 UTP Ethernet 100BaseTX - 5UTP Ethernet 1000BaseT - 5e UTP - 1000 / 100 MAC 4000 store-and-forward () 1488000 /	
EP- 824DX	-	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) - IEEE 802.3x (Flow Control)	MAC 8000 store-and-forward (

			- D-Link (,)
-		-		
DES- 1005D	-	5 Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 (NWay) IEEE 802.3x ()	: Ethernet 10baseT - 3/4/5 UTP Ethernet 100BaseTX - 5UTP 100 / store-and-forward () () Ethernet: 14,880 pps Fast Ethernet: 148,800 pps MAC
DES- 1008D	_	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 (NWay) IEEE 802.3x (: Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX - 5UTP EIA/TIA-568 STP (100) 100 / store-and-forward (MAC
DES- 1008F	- c	7 Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45 1 100 BaseFx	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 (NWay	: Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX - 5UTP EIA/TIA-568 STP (100) 100BASE-FX: 62.5/125mm (2 full duplex)

	– D-Link (,)				
-	-				
DES- 1018DG	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx - RJ-45 2 10/100/1000 BaseT	() IEEE 802.3x (: Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX Ethernet 1000BaseT - 5UTP EIA/TIA-568 STP (100) store-and-forward (
DES- 1010G	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45 2 10/100/1000 BaseT	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x () IEEE 802.3ab (Gigabit Ethernet)	: Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX Ethernet 1000BaseT - 5UTP EIA/TIA-568 STP (100) store-and-forward (MAC 4000		
DES- 1016D	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x ()	16 10/100 / MDI MDX /		
			"store- and-forward"		

			- D-Link ()
-		-		
DES- 1024R+	2	Ethernet 10baseT RJ-45 FastEthernet 100BaseTx RJ-45 + module 100BaseFx	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x ()	: Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX - 5UTP EIA/TIA-568 STP (100) 100BASE-FX: 62.5/125mm (2 full duplex) store-and-forward (MAC MAC
DGS- 1004T	2	4 10/100/1000 BaseT RJ45	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x () IEEE 802.3ab (Gigabit Ethernet)	4000 - (back pressure) MAC 8000 : Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX Ethernet 1000BaseT - 5UTP EIA/TIA-568 STP (100)
DGS- 1008TL	2	8 10/100/1000 BaseT RJ45	IEEE 802.3 (Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x () IEEE 802.3ab (Gigabit Ethernet)	Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX Ethernet 1000BaseT - 5UTP EIA/TIA-568 STP (100) MAC 8000 store-and-forward (

	– D-Link (,)					
		-				
-						
			IEEE 802.3	Ethernet 10baseT		
		16	(Ethernet)	- 3/4/5 UTP		
		F41 .	EEE 802.3u	EIA/TIA-568 STP (100)		
		Ethernet 10baseT	(Fast Ethernet) ANSI/IEEE 802.3	Ethernet 100BaseTX Ethernet 1000BaseT		
DGS-		RJ-45	NWay	- 5UTP		
1016TL	2	FastEthernet	()	EIA/TIA-568 STP (100)		
		100BaseTx	IEEE 802.3x	MAC		
		RJ-45	(4000		
		1000BaseT) IEEE 802.3ab	stone and familiand (
		RJ-45	(Gigabit Ethernet)	store-and-forward (
DCc		16	IEEE 802.3	,		
DGS- 1024D	2		(Ethernet)			
1024D		Ethernet	EEE 802.3u	48 /		
		10baseT	(Fast Ethernet)	MAC		
		FastEthernet	ANSI/IEEE 802.3	8000		
		100BaseTx Gigabyte	NWay ()	store-and-forward (
		Ethernet	IEEE 802.3x	store and forward (
		1000BaseT	(Ethernet 10baseT		
		RJ-45)	- 3/4/5 UTP		
			IEEE 802.3ab	Ethernet 100BaseTX		
			(Gigabit Ethernet)	Ethernet 1000BaseT - 5UTP		
				EIA/TIA-568 STP (100)		
		14	IEEE 802.3	SFP (Mini GBIC)		
			(Ethernet)	1000BASE-LX		
		Ethernet	EEE 802.3u	1000BASE-SX		
		10baseT	(Fast Ethernet)	1000BASE-LH		
	_	FastEthernet 100BaseTx	ANSI/IEEE 802.3 NWay	1000BASE-ZX		
	_	Gigabyte	()	VLAN:		
DGS-		Ethernet	IEEE 802.3x	64 VLAN 802.1Q		
1216T		1000BaseT	((QoS)		
		RJ-45)	. : 2		
		2	IEEE 802.3ab	2		
		SFP	(Gigabit Ethernet) IEEE 802.3z	2		
		(Mini	(Gigabit Ethernet –	8		
		GBIC)				
				-		
				: 32		

	– D-Link (,)				
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_					
		24	IEEE 802.3	SFP (Mini GBIC)	
		Ethernet	(Ethernet)	1000BASE-LX 1000BASE-SX	
		10baseT	EEE 802.3u	1000BASE-LH 1000BASE-ZX	
		FastEthernet	(Fast Ethernet)	VLAN:	
		100BaseTx	ANSI/IEEE 802.3	64 VLAN 802.1Q	
		_	NWay	(QoS)	
DES-	-	2	()	. :2	
1226G		1000BaseT	IEEE 802.3x	2	
		RJ-45	(2	
			IEEE 802.3ab	12	
		SFP (Mini	(Gigabit Ethernet)	a	
		GBIC)	IEEE 802.3z	1 Gigabit Ethernet (2 Gigabit	
			(Gigabit Ethernet –	Ethernet (2 Gigabit)	
)	-	
				: 8,8 /	
		48	IEEE 802.3	SFP (Mini GBIC) 1000BASE-LX 1000BASE-SX	
		Ethernet 10baseT	(Ethernet) EEE 802.3u	1000BASE-LH 1000BASE-ZX	
		FastEthernet	(Fast Ethernet)		
		100BaseTx	ANSI/IEEE 802.3	VLAN:	
	-		NWay	64 VLAN 802.1Q (QoS)	
		2	()	. :2	
DES-		1000BaseT	IEEE 802.3x		
1250G		RJ-45	(6	
			IEEE 802.3ab	8	
		SFP (Mini	(Gigabit Ethernet)		
		GBIC	IEEE 802.3z	1 Gigabit	
			(Gigabit Ethernet –	Ethernet (2 Gigabit Ethernet)	
)	-	
				: 13,6 /	
		8 Ethernet	IEEE 802.3(Ethernet) EEE 802.3u	VLAN:	
		10baseT	(Fast Ethernet)	255 802.1Q	
		FastEthernet	ANSI/IEEE 802.3	(QoS)	
		100BaseTx	NWay	. :4	
DES-	-	l I Gigabyte	() IEEE 802.3x	: 5,6 /	
3010G		Ethernet	(
		1000BaseT)	;	
		RJ-45 1	IEEE 802.3ab	Port Security: 10	
		SFP	(Gigabit Ethernet) IEEE 802.3z	Port Security: 10 MAC-	
		(Mini	(Gigabit Ethernet –	();	
		GBIC))		
				IP-	

– D-Link (,)				
-		-		
DES- 3018	-	16 Ethernet 10baseT FastEthernet 100BaseTx 1 Gigabyte Ethernet 1000BaseT	IEEE 802.3(Ethernet) EEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x ()	VLAN: 255 802.1Q (QoS) : 4 : 7,2 / ;
		RJ-45 1 SFP (Mini GBIC)	IEEE 802.3ab (Gigabit Ethernet) IEEE 802.3z (Gigabit Ethernet –	Port Security: 10 MAC- (); IP-
DES- 3350SR	3	48 Ethernet 10baseT FastEthernet 100BaseTx 1 Gigabyte Ethernet 1000BaseT RJ-45 1 SFP (Mini GBIC)	IEEE 802.3(Ethernet) IEEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x () IEEE 802.3ab (Gigabit Ethernet) IEEE 802.3z (Gigabit Ethernet –)	VLAN: 255 802.1Q (QoS) : 4 ; Port Security: 10 MAC- (); IP- ;
DES- 3550	Fast Ethernet 2	48 Ethernet 10baseT FastEthernet 100BaseTx 1 Gigabyte Ethernet 1000BaseT RJ-45 1 SFP (Mini	IEEE 802.3(Ethernet) IEEE 802.3u (Fast Ethernet) ANSI/IEEE 802.3 NWay () IEEE 802.3x () IEEE 802.3ab (Gigabit Ethernet) IEEE 802.3z (Gigabit Ethernet –	Ethernet : 8 (max.) VLAN: 255 802.1Q (QoS) : 4 : 13.6 / Port Security: 20 MAC- (); IP- ; « » « ».

- Cisco (, -)			
			<u>-</u>)
-			
Catalyst 3750 Standard Multil- ayer Image	Etherr 10base FastEthe 100Bas 1000Ba RJ-4	eT IEEE 802.1Q, ernet IEEE 802.3ab, eTx IEEE 802.1p, seT IEEE 802.3ad	Full duplex capability, layer 3 switching, auto-sensing per device, IP-routing, DHCP support SNMP 1, SNMP 2, RMON 2, SNMP, RMON, Telnet, SNMP 3
Cisco Catalyst 3550 +2 GBIC ports: EMI	Etherr 10base FastEthe 100Bas 2 Gigaby Etherr 1000Ba RJ-4	rernet (VLAN), eTx IEEE 802.3 (Ethernet), yte IEEE 802.3ab (TP Gigabit Ethernet), seT IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 802.3z (Gigabit Ethernet	Full duplex capability, layer 3 switching, auto-sensing per device, IP-routing, DHCP support SNMP 1, SNMP 2, RMON 2, SNMP, RMON, Telnet, SNMP 3 13,6 MAC 8000
Cisco Catalyst 3550 24- 10/100+2 GBIC ports: EMI	Etherr 10bass FastEthe 100Bas 2 (Min GBIC	eT (VLAN), ernet IEEE 802.3 eTx (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), ii IEEE 802.3u (Fast	EMI (Mini GBIC) 1000BASE-LX 1000BASE-SX 1000BASE-LH 1000BASE-ZX - - RMON 2, SNMP, RMON, Telnet

	- Cisco (, -)			
-		-		
Cisco Catalyst 3550 48- 10/100+2 GBIC ports: SMI	-	Ethernet 10baseT FastEthernet 100BaseTx 2 (Mini GBIC)	IEEE 802.1D (), IEEE 802.1p (Prioritizing), IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 802.3z (Gigabit Ethernet	SMI (Mini GBIC) 1000BASE-LX 1000BASE-SX 1000BASE-LH 1000BASE-ZX MAC (L2) 8000 RMON, RMON 2.0 13,6 / . 10100000 /
Cisco Catalyst 3550+2 GBIC ports: EMI		Ethernet 10baseT 100BaseTx 1000BaseT RJ-45 2 EMI (Mini GBIC)	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	EMI (Mini GBIC) 1000BASE-LX 1000BASE-SX 1000BASE-LH 1000BASE-ZX MAC (L2) 8000 RMON, RMON 2.0 13.6 / .
Cisco Catalyst 3550 10 GBIC+ 10/100 /1000 ports: EMI	-	2 Ethernet 10baseT 100BaseTx 1000BaseT RJ-45 10 EMI (Mini GBIC)	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	EMI (Mini GBIC) 1000BASE-LX 1000BASE-SX 1000BASE-LH 1000BASE-ZX MAC (L2) 12000 RMON, RMON 2.0 12 / . 17000000 /

_		- Cisco (-)
-	-		
Catalyst 2970 Imageern et port	24 Ethernet 10baseT 100BaseTx 1000BaseT RJ-45	IEEE 802.1D, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.1x, IEEE 802.3, IEEE 802.3ab, IEEE 802.3ad (LACP), IEEE 802.3U	RMON 1, RMON 2, SNMP 1, SNMP 2, SNMP 3 MAC (L2) 8000 DHCP support, Redundant Power System connector, VLAN support
Catalyst WS- C2950SX -48-SI	48 Ethernet 10baseT 100BaseTx RJ-45 2 Ethernet 1000Base- SX	IEEE 802.1D, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1x, IEEE 802.3, IEEE 802.3ad (LACP), IEEE 802.3U, IEEE 802.3x	RADIUS, TACACS+ Full duplex capability, Layer 2 switching, Manageable, VLAN support MAC 8000 RMON, SNMP 1, SNMP 2,
WS- C2950G- 12-EI	12 Ethernet 10baseT 100BaseTx RJ-45 2 GBIC	IEEE 802.1p (Prioritizing), IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 802.3z (Gigabit Ethernet)	SNMP 3, Telnet MAC (L2) 8000 store-and-forward SNMP Bridge MIB 6.8 / . Ethernet 10baseT - 3/4/5 UTP Ethernet 100BaseTX - 5UTP EIA/TIA-568 STP (100)

			- Zyxel ()
		-		,
-				
OMNI		5	IEEE 802.1D	
LAN			IEEE 802.1p	
SWITCH		Ethernet	IEEE 802.1Q	(/)
G5		10/100/1000	IEEE 802.3	
		BaseT	IEEE 802.3ab	
		RJ-45	IEEE 802.3u,	
			IEEE 802.3x,	
			IEEE 802.3z	
ZyXEL		8	IEEE 802.1D	MAC
OMNI			IEEE 802.1p	
LAN		Ethernet	IEEE 802.1Q	8000
SWITCH		10/100/1000	IEEE 802.3	Full Duplex
G8		BaseT	IEEE 802.3ab	Autosensing 10/100
		RJ-45	IEEE 802.3u,	NWay
			IEEE 802.3x,	
			IEEE 802.3z	
		8	IEEE 802.1D	
			IEEE 802.1p	(IGMP snooping),
		Ethernet	IEEE 802.1Q	
ES-2008		10/100	IEEE 802.3	
	2-	BaseT	IEEE 802.3ab	" ,
		RJ-45	IEEE 802.3u,	MAC- ,
			IEEE 802.3x,	256 VLAN
		1	IEEE 802.3z	
		1000Base-T		
		24	IEEE 802.1D	4096 VLAN;
		Ethernet	IEEE 802.1p	
	-	10/100	IEEE 802.1Q	
ES-3024		BaseT	IEEE 802.3	
		RJ-45	IEEE 802.3ab	
			IEEE 802.3u,	802.1x;
		4	IEEE 802.3x,	STP
		1000	IEEE 802.3z	RSTP (IEEE 802.1D IEEE
		Base-		802.1w)
		T/Sx/LH		
		24	IEEE 802.1D	
		Ethernet	IEEE 802.1p	
		10/100	IEEE 802.1Q	IEEE
EG 1104		BaseT	IEEE 802.3	802.11p
ES-1124		RJ-45	IEEE 802.3ab	
			IEEE 802.3u,	MAG
		2	IEEE 802.3x,	MAC- ,
		1000	IEEE 802.3z	802.1Q
		Base-		
		T/Sx/LH		

- Hewlett-Packard (,)					
-		-			
HP Pro Curve Switch 5304xl- 48G	-	48 Ethernet 10baseT 100BaseTx 1000BaseT RJ-45	IEEE 802.1p (Prioritizing), IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 802.3z (Gigabit Ethernet)	VLAN 256 e VLAN. HP ProCurve Manager, HP ProCurve Manager Plus, Command line interface, Web browser, Configuration menu, Out-of-band management, Console Port, RMON, XRMON, sFlow, SMON. e e e e e (OSPF).	
HP ProCurve Switch 5304xl- 32G	3	32 Ethernet 10baseT 100BaseTx 1000BaseT RJ-45	IEEE 802.1p (Prioritizing), IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 802.3z (Gigabit Ethernet)	36,6 / MAC 10000 HP Toptools for Hubs & Switches included; Command line interface: Web browser; Configuration menu; SNMPv1/v2c. VLAN 256 e VLAN. IP- 3- : e e e IP- e e ; e e e RIP, RIPv2 OSPF.	
HP ProCurve Swtich 2626 PWR		24 Ethernet 10/100 BaseT RJ-45 2 10/100/1000 Base-T GBIC	IEEE 802.1p (Prioritizing), IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 802.3z (Gigabit Ethernet)	Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX Ethernet 1000BaseT - 5UTP EIA/TIA-568 STP (100) mini-GBIC (mini-GBIC)	

- Hewlett-Packard (,)					
HP ProCurve Switch 4160GL		60 Ethernet 10/100/1000 BaseT RJ-45 6 mini-GBIC	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	HP ProCurve Manager (-); HP ProCurve Manager Plus; command line interface; Web browser; configuration menu; out- of-band management VLAN IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP MAC 8000 36,6 /	
HP ProCurve Switch 4140GL		40 Ethernet 10/100/1000 BaseT RJ-45 4 mini-GBIC	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	18,3 / MAC 8000 HP ProCurve Manager (
HP ProCurve Switch 3400cl- 48G HP ProCurve Switch 2848	3	44 Ethernet 10/100/1000 BaseT RJ-45 4 10/100/1000 Base-T Mini-GBIC 44 Ethernet 10/100/1000 BaseT	IEEE 802.1w IEEE 802.1s IEEE 802.1v IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3z IEEE 802.1D IEEE 802.1D IEEE 802.1D IEEE 802.1D IEEE 802.1D IEEE 802.1D IEEE 802.1Q IEEE 802.3 IEEE 802.3	1000 < 6 ; 10 / < 10 64 . 136 / 99,5 Mac 16000 2824: 48Gbps / 2848: 96 Gbps	
		4 10/100/1000 Base-T Mini-GBIC	IEEE 802.3u, IEEE 802.3x, IEEE 802.3z		

- Hewlett-Packard (,)					
-	-				
HP ProCurve Switch 2824	4 10/100/1000 Base-T Mini-GBIC	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	Mac 16000 48 Gbps		
HP ProCurve Switch 4148GL	Ethernet 10baseT FastEthernet 100BaseTx 2 (MiniGBIC)	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	18,3 / . 35,7 / MAC (L3) 8192		
HP ProCurve Switch 2512	12 Ethernet 10baseT 100BaseTx RJ-45	IEEE 802.1p (Prioritizing), IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet), IEEE 802.3x (Flow Control), IEEE 8 2.3ad Link Aggregation	6,6 (64) 9,6 / 4096		
HP ProCurve Switch 2626	24 Ethernet 10/100 BaseT 2 10/100/1000 Base-T	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3u, IEEE 802.3x, IEEE 802.3z	Mac 8000 Ethernet 10baseT - 3/4/5 UTP EIA/TIA-568 STP (100) Ethernet 100BaseTX Ethernet 1000BaseT - 5UTP EIA/TIA-568 STP (100)		

- 3Com (,)					
	-				
_					
	5	IEEE 900 1D	MAC		
Office	3	IEEE 802.1D IEEE 802.1p	MAC		
Connect	Ethernet	IEEE 802.1Q	4000		
Gigabit	10/100/1000	IEEE 802.3	4000		
Switch 5	BaseT,	IEEE 802.3ab	2		
Switch	RJ-45	IEEE 802.3u,	MDI		
	(IEEE 802.3x,	1,121		
	()	IEEE 802.3z			
Super	12	IEEE 802.1D			
Stack 3	Ethernet	IEEE 802.1p	6 Gbps		
Switch	10/100/1000	IEEE 802.1Q			
3812	BaseT	IEEE 802.3	35,7		
		IEEE 802.3ab	MAC		
	4	IEEE 802.3u,	16000		
	Mini-GBIC	IEEE 802.3x,			
		IEEE 802.3z			
	24	IEEE 802.1D	VLAN		
	Ethernet	IEEE 802.1p			
Super	10/100	IEEE 802.1Q	SNMP, - ,		
Stack 3	BaseT	IEEE 802.3			
Switch		IEEE 802.3ab			
4228G	2	IEEE 802.3u,			
	Mini-GBIC	IEEE 802.3x,			
	2	IEEE 802.3z			
	10/100/1000				
Cunan	BaseT	IEEE 802.1D			
Super Stack 3	8	IEEE 802.1D	Mac		
Baseline Baseline	Ethernet	IEEE 802.1Q	8000		
Switch	10/100/1000	IEEE 802.1Q			
8 10/100	BaseT	IEEE 802.3ab			
/1000	Buser	IEEE 802.3u,			
71000		IEEE 802.3x,			
		IEEE 802.3z			
Super	48	IEEE 802.1D	Mac		
Stack 3	Ethernet	IEEE 802.1p	8000		
Baseline	10/100	IEEE 802.1Q	0000		
Switch 48	BaseT	IEEE 802.3			
10/100 +		IEEE 802.3ab			
2 1000	2	IEEE 802.3u,			
	10/100/1000	IEEE 802.3x,			
	BaseT	IEEE 802.3z			

- 3Com (,)					
	_				
_					
-					
C		IEEE 000 1D	MACALL TIL		
Super Stack 3	24	IEEE 802.1D IEEE 802.1p	MAC Address Table 4000		
Baseline	Ethernet	IEEE 802.1p	4000		
10/100	10/100	IEEE 802.3			
Switch	BaseT	IEEE 802.3ab			
24-port	20001	IEEE 802.3u,			
		IEEE 802.3x,			
Super	16	IEEE 802.3	-		
Stack 3		(Ethernet)	,		
Baseline	Ethernet	IEEE 802.3u (Fast	,		
10/100	10/100	Ethernet)			
Switch	BaseT	IEEE 802.1d	IEEE 802.1p		
16-Port		() IEEE 902 2	MDIMDIV		
		IEEE 802.3x	MDI/MDIX		
			4 000 MAC		
		,			
Super	16	IEEE 802.1D			
Super	Ethernet	IEEE 802.1p			
Stack 3	10/100	IEEE 802.1Q	SuperStack 3 Switch 4228G,		
Switch	BaseT	IEEE 802.3	SuperStack 3 Switch 4250T		
4250T		IEEE 802.3ab	SuperStack 3 Switch 4226T.		
48-Port +	2	IEEE 802.3u,	VLAN		
2*10/100	10/100/1000 BaseT	IEEE 802.3x, IEEE 802.3z			
/1000	Daser				
Super	40	EEE 802.1D	Stackable.		
	48	IEEE 802.1p			
Stack 3	Ethernet 10/100	IEEE 802.1Q	2Com		
Switch	BaseT	IEEE 802.3 IEEE 802.3ab	3Com SuperStack 3 Switch 4400 SE		
4400 48-	Daser	IEEE 802.3ab	24-Port (3C17206). 2		
port		IEEE 802.3x,	211011 (3017200). 2		
		,	VLAN		
Super		EEE 802.1D			
Stack 3	12	IEEE 802.1p	1.1 Gbps		
Switch	Ethernet	IEEE 802.1Q			
4900	100/1000	IEEE 802.3ab	23		
12-port	BaseT	IEEE 802.3u,	MAC		
100/1000		IEEE 802.3x,	8000		
Office	5	IEEE 802.3z IEEE 802.3	2000 MAC- ,		
Connect	Ethernet	IEEE 802.3 IEEE 802.3ab	2000 WAC- ,		
Dual	10/100	IEEE 802.3ab	MDI/MDIX		
Speed	BaseT	IEEE 802.3u, IEEE 802.3x,	MDI/MDIA		
Switch 5	Dusci	,			
Plus					

2. LAN-

	– Zyxel (,)					
Prestige 841 EE	VDSL-	2 RJ11 1 Ethernet 10/100 RJ45 RS-232C, DB- 9	IEEE 802.3/3u/3x Flow control in full duplex mode Back pressure in half duplex mode	POTS/ISDN Prestige 841 18,75 / , 1500 . VDSL-		
Prestige 841C EE	VDSL-	2 RJ11 1 Ethernet 10/100 RJ45 RS-232C, DB- 9	IEEE 802.3/3u/3x Flow control in full duplex mode Back pressure in half duplex mode	RJ-11. Prestige 841 VDSL- Prestige 841 18,75 / . VDSL- , -		
Prestige 791R EE	SHDSL- /	1 Ethernet 10/100 RJ45 RS-232C, WAN- interface	IEEE 802.3/3u/3x Flow control in full duplex mode Back pressure in half duplex mode	1500 ; (FireWall); - DHCP; - ; (IP multicast),		

– Zyxel (,)						
-		-				
Prectige 871 EE	VDSL	2 RJ11 1 Ethernet 10/100 RJ45 RS-232C 2	IEEE 802.3/3u/3x Flow control in full duplex mode Back pressure in half duplex mode G.DMT (G.992.1),			
Prestige 660H EE ANNEX A	ADSL2+ 4-	RJ11 4 Ethernet 10/100 RJ45 RS-232C	ANSI T1.413 Issue2, G.lite (G.992.2), G.hs (G.994.1), RFC 2516 PPP over Ethernet, RFC 2364 PPP over ATM, RFC 1483/2684 Multi- protocol over ATM, RFC 1577/2225 Classical IP over ATM	6 24 / ()/1 / () Annex A (), , , DoS-, Zero Configuration		
Prestige 662H EE ANNEX A	ADSL2+ 4-	2 RJ11 4 Ethernet 10/100 RJ45 RS-232C	RFC 2684/2364 / RFC 2516 (PPPoE) IEEE 802.3/3u/3x Flow control in full duplex mode Back pressure in half duplex mode	(Stateful Packet Inspection), VPN- DES 3DES, Ethernet (Zero Configuration)		

	– Zyxel (,)					
-		-				
		2 RJ11	RFC 2684/2364			
P-660R EE	ADSL2	1 Ethernet 10/100 RJ45	RFC 2516 (PPPoE) IEEE 802.3/3u/3x	(Zero Configuration)		
ANNEX A	R	RS-232C	Flow control in full duplex mode Back pressure in half duplex mode	UpnP IP Policy Routing		
				DHCP/DNS/Dynamic DNS (DDNS) NAT IGMP v1/v2		
VES- 1124 EE 24 PORT	VDSL-/	24 RJ11 2 Ethernet 10/100 RJ45 RS-232C	IEEE 802.1d VLAN VDSL- IEEE 802.1q	1500		
				SNMP		

3. (Router, Gateway)

	– Zyxel (,)				
-		-			
VSG- 1000 EE		1 10/100 Ethrenet WAN 1 10/100 Ethernet LAN	NAT(RFC1631) DHCP Server DHCP Client HTTP Proxy SMTP redirection WAN connections (static IP/DHCP client)	VSG-1000 EE ,	
		RS232		L2 isolation VPN pass through (IPSec/PPtP/L2TP) IP/MAC address pass through	
VSG- 1200 EE		1 10/100 Ethrenet WAN 4 10/100 Ethernet LAN RS232	Static IP/DHCP client Static PPPoE/PPTP client VPN pass through (IPSec/PPtP/L2TP) IP/MAC address pass through 802.1x pass through	4 Ethernet-	
		_	 - D-Link (TFTP	
DI-304	+ 4-x switch+ISDN adapter	4 Ethernet 10/100 RS232	IEEE 802.3 CSMA/CD	ISDN BRI:	

			– D-Link (,)
DI-707P	-	1 10/100 Ethrenet WAN 7 10/100 Ethernet LAN RS232	CSMA-CD IEEE 802.3 10 BASE-T Ethernet IEEE 802.3u 100 BASE-TX Fast Ethernet ANSI/IEEE 802.3 Nway autonegotiation IEEE 802.3x	Store-and-forward
DI- 808HV	VPN -	1 10/100 Ethrenet WAN 8 10/100 Ethernet LAN RS232	CSMA-CD IEEE 802.3 10 BASE-T Ethernet IEEE 802.3u 100 BASE-TX Fast Ethernet ANSI/IEEE 802.3 Nway autonegotiation IEEE 802.3x	DB-25 Dial-up ISDN TA Dial-up PPP Dial- on-Demand (-
DFL-200	SOHO	1 10/100 WAN 4 10/100 LAN 1 10/100 DMZ RS232	CSMA-CD IEEE 802.3 10 BASE-T Ethernet IEEE 802.3u 100 BASE-TX Fast Ethernet ANSI/IEEE 802.3 Nway autonegotiation IEEE 802.3x	LAN/WAN : 50 / 3DES: 10 : 3 000 . VPN : 80 . : 500 . : 256 . on-line : 50 (URL; Java/ ActiveX/ Cookie/Proxy) ICMP

		- Nortel Networks (,)				
Advan- ced Remote Node	-	1 Ethernet 10base5 DB-15	IEEE 802.3 (Ethernet) Multi-link PPP	<u>(WAN)</u> 45 / .		
		1 (WAN)		<u>UPLINK</u> 10 / . <u>G.711, G.723, G.729A</u>		
Contivity 1100	-	Ethernet 10/100 BaseT (WAN) 4 x Ethernet 10/100 BaseT RJ-45	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) - : - OSPF - RIP v2 - VRRP : - IPSec tunneling - L2TP - PPTP	: - 3DES - AES (- DES		
Passport 1648T	-	48 Ethernet 10/100 BaseT 4 Ethernet 1000baseSX	- HTTP - SNMP - IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet)	- NAT : - SNMP 3.0 - RADIUS Accounting - SSH - TACACS+		
			– 3Com (,)		
Office Connect Cable/ DSL Router	-	DSL RJ-45 (WAN) 4 Ethernet 10/100 BaseT	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) : - RIP v1 - RIP v2	: - PPPoE - PPTP : - SNTP : - DHCP - NAT - PAT : - PPP over Ethernet		

	- 3Com (,)				
Office Connect Secure Router	-	1 Ethernet 10/100 BaseT (WAN) 4 Ethernet 10/100 BaseT	- IEEE 802.3 (Ethernet) - IEEE 802.3u (Fast Ethernet) : - RIP v1 - RIP v2 : - HTTP	: - PPP over Ethernet - PPTP : - NAT - NAT - PAT LAN : - IPSec tunneling - L2TP	
3Com Router 3018	-	Ethernet 10/100 BaseT RJ-45 T1/E1	IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)	- PPTP (WAN) E1, Ethernet, Frame Relay, ISDN, ISDN PRI, X.21, X.25 Frame Relay, IP, IPX, PPP, PPP over Ethernet, SLIP	
Router 3012	-	Ethernet 10/100 BaseT (WAN) 2 Ethernet 10/100 BaseT	IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)	(WAN) Ethernet, Frame Relay, HDLC, , X.21, X.25 Frame Relay, IP, IPX, PPP, PPP over Ethernet, SLIP CHAP (Challenge Handshake Authentication Protocol), Firewall Filtering, PAP (Password Authentication Protocol), RADIUS Accounting, Secure VPN Option	
3Com Router 5009	-	1 Ethernet 10/100 BaseT (WAN) 1 Ethernet 10/100 BaseT	IEEE 802.1Q (VLAN), IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)	(WAN) Frame Relay, ISDN, T1/E1, X.25 PPP, PPP over Ethernet, SLIP	

4. (Server)

- Hewlett Packard (,)
ProLiant ML110 G3
/
1 (. 1) x Intel Celeron D 326 2.53 533 (socket 775)
1 • 16 2 • 256
Intel E7230 • 133
512 (. 8) PC4200 DDR2 SDRAM • 4 240 DIMM •
Serial ATA 1.0 • . • 2 . RAID - 0, 1, 0+1, 5
80 • . • Serial ATA 1.0 • 7200 ./ .
CD-ROM 5.25" x 1.6" . • ATAPI • CD: 48 128
1 ATI ES1000 • . • PCI • 16 SDRAM
Broadcom BCM5721 • PCI • 10 / . • Ethernet • IEEE 802.3 (Ethernet) 100 / . • Fast Ethernet • IEEE 802.3u (Fast Ethernet) 1000 / . • Gigabit Ethernet • IEEE 802.3ab (TP Gigabit Ethernet)
2
· · · · · · · · · · · · · · · · · · ·
1 (1) x PCI Express x4 1 (1) x PCI Express x16 2 (2) x 32 33 PCI
2 (2) x 5.25" x 1.6" () 2 (2) x 3.5" x 1" (.)

– Dell (,)
PowerEdge 1800
/
1 (. 2) x Intel Xeon 3.0 800 (socket 604)
1 • 16 2 • 1
1 • 200
512(. 12) DDR2 SDRAM 240 DIMM •
Ultra320 Wide SCSI • . Serial ATA 1.0 • . • 2 .
120 • . • Serial ATA 1.0 • 7200 ./ .
DVD/CD-RW 5.25" x 1.6" . • ATAPI
1 • . • 16 SDRAM
. • 10 / . • Ethernet • IEEE 802.3 (Ethernet) 100 / . • Fast Ethernet • IEEE 802.3u (Fast Ethernet) 1000 / . • Gigabit Ethernet • IEEE 802.3ab (TP Gigabit Ethernet)
Ethernet 10/100/1000BaseT • RJ-45 ()
1 (1
9 (7)

- IBM (- ,)
xSeries
1 (. 2) x Intel Xeon 3.2 800 (socket 604)
1 • 16 2 • 1024
200
512 (. 16) PC3200 DDR2 SDRAM • 6 (4) 240 DIMM •
Ultra320 Wide SCSI • • . • PCI • 2 .
120 • . • SCSI • 7200 ./ .
CD-ROM 5.25" . • ATAPI • CD: 48
1 ATI Radeon 7000M • . • PCI • 2048 x 1536/16 . • 16 DDR SDRAM
. • PCI • 10 / . • Ethernet • IEEE 802.3 (Ethernet) 100 / . • Fast Ethernet • IEEE 802.3u (Fast Ethernet) 1 / . • Gigabit Ethernet • IEEE 802.3ab (TP Gigabit Ethernet)
. ECP/EPP • DB-25 () 2 • DB-9 () 4 USB 2.0 • A () • PS/2 ()
• PS/2 () Ethernet 10/100/1000BaseT • RJ-45 (
2 (2) x 64 100 PCI-X 1 (1) x 64 133 PCI-X 2 (2) x 32 33 PCI 1 (1) x PCI Express x16
6 (6

-Hewlett Packard (,)
ProLiant DL380 R04
1 (. 2) x Intel Xeon 3.4 800 (socket 604)
1 • 16 2 • 2
Intel E7520 • 200
1 (. 12) PC3200 DDR2 SDRAM • 6 (4) 240 DIMM
Serial Attached SCSI • • PCI-X RAID - 0, 1+0, 5, 6
200 • . • SCSI • 7200 ./ .
CD-ROM 5.25" . • IDE • CD: 24 x
1 ATI Rage XL • . • PCI • 1600 x 1200/ 64 . • 8 SDRAM
2 - Compaq NC7782 • PCI-X • 10 / . • Ethernet • IEEE 802.3 (Ethernet) 100 / . • Fast Ethernet • IEEE 802.3u (Fast Ethernet) 1 / . • Gigabit Ethernet • IEEE 802.3ab (TP Gigabit Ethernet)
. • DB-9M ()
• PS/2 () • PS/2 () VGA • HD-15F () 2 USB 2.0 • A () USB 2.0 • A () SCSI • VHDCI-68 () 2 x Ethernet 10/100/1000BaseT • RJ-45 ()
1 () x 64 133 PCI-X 2 (2) x 64 100 PCI-X
1 (1

```
-Fujitsu Siemens ( ,
                                                  )
PRIMERGY RX300 S2
2 ( . 2) x Intel Xeon 3.0 800
                                                 ( socket 604)
    1 • 16
    2 • 1
Intel E7520 • 200
2 ( .16 ) PC3200 DDR2 SDRAM • 8 ( 6 ) 240- . DIMM
Ultra320 Wide SCSI • . • 64- . 133 PCI-X • 2 .
RAID - 1
Ultra ATA/100 • . • PCI • 2 .
4 x 73 • " • Ultra320 Wide SCSI
DVD-ROM 5.25" x 0.5" . • EIDE
1 ATI Rage XL •
                        ATI Rage XL • . • PCI • 1600 x 1200/
16 .•8 SDRAM
2 x 1 -
                                                     Broadcom
BCM5721
• PCI-X • 1000 / . • Gigabit Ethernet • IEEE 802.3ab (TP Gigabit Ethernet) 100 / . • Fast Ethernet • IEEE 802.3u (Fast Ethernet) 10 / . • Ethernet
• IEEE 802.3 (Ethernet)
      • PS/2 ( )
     • PS/2 ( )
VGA • HD-15F ( )
2 x Ethernet 10/100/1000BaseT • RJ-45 ( )
                      RS-232C • DB-9M ( )
2 USB 2.0 • A (
2 USB 2.0 • A (
                     )
2 x Fibre Channel • LC ( )
3 64- . 100 PCI-X (
2 64- . 133 PCI-X (
                                .)
8 (6
       )
```

5. (Workstation)

– Acer (,)
Aspire T350
•
Intel Celeron D 2.93 socket 478 • 533 FSB
1 • 16
2 • 256
100 SiS 661FX
DDR SDRAM • 256 (. 2) • 2 x 184 DIMM (1)
80.0 • . • Ultra ATA/100 • 7200 ./ .
DVD/CD-RW 5.25" . • ATAPI • DVD: 16
ATI Radeon 9100 • . • AGP 8x
128 • DDR SDRAM
• . • PCI • AC 97
• 10/100 / . • Ethernet, Fast Ethernet • . • PCI • IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)
2 (1) x 5.25" x 1.6" ()
2 (2) x 3.5" x 1" ()
1 () x 3.5" x 1" (.)
1 (1) x AGP
3 (2) x PCI
2 USB 2.0 • A • ()
• 3.5 • ()
• 3.5 • () • 3.5 • ()
4 USB 2.0 • A • ()
• PS/2 • ()
• PS/2 • ()
. • DB-25F • ()
2 • DB-9M • ()
VGA • HD-15F • ()
• 3.5
. • 3.5 • ()
Ethernet 10/100BaseT • RJ-45 • ()
• 3.5 • ()

- Acer (,)
Aspire RC500
•
Intel Pentium IV 3.2 socket 478 • 800 FSB
1 • 8
2 • 512
200 Intel 865G
PC3200 DDR SDRAM • 512 (. 4) • 4 x 184 DIMM
120.0 • . • Ultra ATA/100 • 7200 ./ . • Ultra ATA/100 • PCI • 2 .
DVD-RW 5.25" . • ATAPI
NVIDIA GeForce FX 5200 SE • AGP 8x (128 Mb)
128 • DDR SDRAM
Realtek ALC202A 2.1 • . • PCI • AC'97
• 10/100 / . • Ethernet, Fast Ethernet • . •
PCI • IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)
Ta 2
1 () x 5.25" ()
1 () x 3.5" () 2 (1) x 3.5" ()
1 AGP
3 PCI
• PS/2 • () • 6-pin header • ()
Ethernet 10/100BaseT • RJ-45 • () . • DB-25F • () . • DB-9M • ()
$VGA \cdot HD-15F \cdot () VGA \cdot HD-15F \cdot ()$
$2 \text{ USB } 2.0 \bullet \text{A} \bullet () 2 \text{ USB } 2.0 \bullet \text{A} \bullet ()$
FireWire • 4-pin • ()
FireWire • 6- 2 or SPDIE/line out • ()
2 x SPDIF/line-out • ()
• 3.5 • 3.5 • ()
• RJ-11 • () Memory Stick PRO • (
) CompactFlash • () SmartMedia • () SD
MultiMedia Card • () XD-Picture Card • (

	– Dell (•)	
Opt	iplex 170L MT	,	,	
	•			
Inte		ket 478 • 533	FSB	
	1 • 16 2 • 256			
133		tel 865GV		
PC2	2700 DDR SDRAM • 128	(. 2) • 184-	. DIMM (
80.0	• . • Ultra ATA/10	00 • 7200 ./	. (S.M.A.R	R.T.)
DV	D-RW 5.25" . • ATAP	I		
	el Extreme Graphics 2 • 0 x 1200		Intel 865GV	• .•
(. 64 •	S	DRAM	
16-	.• .• AC'97			
		/ . • Etherne		et • . •
PCI	• IEEE 802.3 (Ethernet), IE	EE 802.3u (Fas	t Ethernet)	
1.7		2.511.6		
$\frac{1}{2}$) x 5.25" () x 3.5" ()	
) x 5.25" () x 3.5" (.))		
	CI()			
L	$SB 2.0 \cdot A \cdot ($			
	SB $2.0 \cdot A \cdot ()$			
	. • RJ-11 • ()			
	. ECP/EPP • DB-25F •			
Ethe	ernet 10/100BaseT • RJ-45 •	()		
	• PS/2 • ()			
VC	• PS/2 • () A • HD-15F • ()			
V G.	3.5	• ()	
	. • 3.5	• ()	
	• 3.5	• ()	,	
	. • 3.5	•()	

– Dell (,)
Optiplex 170L SD
•
Intel Pentium IV 2.8 socket 478 • 533 FSB
1 • 16
2 • 1
133 Intel 865GV
PC2700 DDR SDRAM • 512 (. 2) • 2 x 184 DIMM (1) •
80.0 • . • Ultra ATA/100 • 7200 ./ . (S.M.A.R.T.)
CD-ROM 5.25" . • ATAPI
Intel Extreme Graphics 2 • Intel 865GV • . • AGP 4x • 1600 x 1200
(. 64 • SDRAM
16 • . • AC'97
• 10/100 / . • Ethernet, Fast Ethernet • . • PCI • IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)
1 3.5" () 1 5.25" () 1 3.5" (.)
2 PCI () 1 PCI (.)
2 USB 2.0 • A • () 4 USB 2.0 • A • () . • RJ-11 • () . ECP/EPP • DB-25F • () Ethernet 10/100BaseT • RJ-45 • () • PS/2 • () VGA • HD-15F • ()

– Fujitsu Siemens (,)
SCENIC P320
-
Intel Celeron D 3.06 socket 775 • 533 FSB
1 • 16
2 • 256
133 SiS 661FX
PC3200 DDR SDRAM • 256 (. 2) • 2 x 184 DIMM (
80 • . • Serial ATA 1.0
DVD-ROM 5.25" . • ATAPI • CD: 48 • DVD: 16
Intel Graphics Media Accelerator 900 • Intel GMA 900 • . • PCI Express x16 • 1600 x 1200/ 32M
(. 128 • SDRAM
Realtek ALC655 • . • PCI • AC'97
ADMTek AN983B • 10 / ., 100 / . • Ethernet, Fast Ethernet • . • PCI • IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)
2 (1
. RS-232 • DB-9M • ()
. ECP/EPP • DB-25F • ()
• PS/2 • ()
. 3.5
• 3.5 • ()
4 USB 2.0 • A • ()
VGA • HD-15F • ()
Ethernet 10/100/1000BaseT • RJ-45 • ()
• PS/2 • ()
2 USB 2.0 • A • ()
• 3.5 • ()
• 3.5 • (

– Fujitsu Siemens (,)
ESPRIMO P5905
•
Intel Pentium IV 3.2 socket 775 • 800 FSB
1 • 16 2 • 2
200 Intel 945G Express
PC4300 DDR2 SDRAM • 512 (. 4) • 4 x 240 DIMM (2
80.0 • . • Serial ATA II
DVD-ROM 5.25" . • ATAPI • CD: 48 • DVD: 16
Intel GMA 950 • . • PCI Express x16
(. 128 • SDRAM
Realtek ALC260 • . • Intel High Definition Audio (Azalia), Microsoft DirectSound
Broadcom BCM5751 • 10 / .,
100 / ., 1000 / . • Ethernet, Fast Ethernet, Gigabit Ethernet • . • IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet)
2 (1) x 5.25" () 2 (1) x 3.5" () 2 (1) x 3.5" (.)
2 (2) x PCI 1 (1) x PCI Express x16
1 (1) x PCI Express x1
• PS/2 • () • PS/2 • () . • DB-9M • () . • DB-25F • () VGA • HD-15F • ()
. 3.5 •() . 3.5 •() . 3.5 •() . 3.5 •()
• 3.5 • () • 3.5 • ()
Ethernet 10/100/1000BaseT • RJ-45 • () 4 USB 2.0 • A • ()
$2 \text{ USB } 2.0 \bullet A \bullet ($

- Hewlett Packard (,)
Compaq t5525
•
VIA Eden 800
DDR SDRAM • 128 (. 128)
256.0 • .
(. 16 • SDRAM
. • AC'97
• 10 / ., 100 / . • Ethernet, Fast Ethernet • . • IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)
4 USB 2.0 • A • () . • DB-9M • () . • DB-25F • () • PS/2 • () Ethernet 10/100BaseT • RJ-45 • (.) . • 3.5 • (.) VGA • HD-15F • (.)

- Hewlett Packard (,)
Compaq dc7600
-
Intel Pentium IV 3.2 socket 775 • 800 FSB
1 • 16
2 • 2048
200 Intel 945G
PC4200 DDR2 SDRAM • 1024 (. 4) • 4 x 240 DIMM (2
) • (unbuffered; standard memory 2 x
512 MB dual channel)
80 • . • Serial ATA II • 7200 ./ .
DVD/CD-RW 5.25" x 1.6" . • IDE • CD: 48 x/ 48 x/ 32 • DVD: 16
Intel Graphics Media Accelerator 950 • . • PCI Express x16 • 2048 x 1536/16 . • HDTV • MPEG-2 (RAMDAC 400 MHz)
(. 128 • SDRAM
Realtek ALC260 • 32 • . • PCI • A3D 1.0,
EAX, EAX 2.0, HRTF 3D, I3DL2, Intel High Definition Audio (Azalia),
Microsoft DirectSound3D
Broadcom NetXtreme • Broadcom BCM5751
• 10 / ., 100 / ., 1000 / . • Ethernet, Fast
Ethernet, Gigabit Ethernet • . • PCI Express x1 • IEEE 802.3 (Ethernet),
IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet)
3 (2) x 5.25" x 1.6" ()
1 (1) x 3.5" x 1" ()
2 (1) x 3.5" x 1" (.)
2(2) x PCI()
1 (1) x PCI Express x 1 ()
1 (1) x PCI Express x 16 ()
1 (1) x riser slot
6 x USB 2.0 • A • ()
. • DB-9M • ()
. • DB-25F • ()
• PS/2 • ()
• PS/2 • ()
Ethernet 10/100/1000BaseT • RJ-45 • ()
VGA • HD-15F • ()
• 3.5
• 3.5
2 USB 2.0 • A • ()
• 3.5
• 3.5 • ()

- IBM (- ,)
ThinkCentre A51 8131-74G
-
Intel Celeron D 2.8 socket 775 • 533 FSB
1 • 16
2, • 256
200
PC3200 DDR2 SDRAM • 256 (. 4) • 2 x 240 DIMM (1)
40.0 • . • Serial ATA 1.0
CD-ROM 5.25" x 1.6" . • ATAPI • CD: 48
Intel Graphics Media Accelerator 900 • Intel GMA 900 • . • PCI Express x1 • 2048 x 1536/16 .
SDRAM
SoundMAX Cadenza • . • AC'97
• 10 / ., 100 / . • Ethernet, Fast Ethernet •
. • PCI • IEEE 802.3 (Ethernet), IEEE 802.3u (Fast Ethernet)
2 (1) x 5.25" ()
1 () x 3.5" x 1" ()
1 () x 3.5" x 1" (.)
1 (1) x PCI (.) 1 (1) x PCI (.)
1 (1) x PCI Express x1 (.)
. • DB-25F • ()
. RS-232 • DB-9M • ()
. 3.5 • ()
• 3.5
VGA • HD-15F • ()
4 USB 2.0 • A • ()
2 USB 2.0 • A • ()
Ethernet 10/100/1000BaseT • RJ-45 • ()
• PS/2 • ()
• PS/2 • ()
• 3.5
• 3.5 • ()

	- IBM (- ,)
	ThinkCentre A52 8157-72G
	-
	Intel Pentium IV 3.0 socket 775 • 800 FSB
	1 • 16
	2 • 2
	200
	PC4200 DDR2 SDRAM • 512 (. 4) • 2 x 240 DIMM
	(1)
	160.0 • . • Serial ATA 1.0
	DVD-RW 5.25" . • ATAPI • DVD: 16
	Intel Graphics Media Accelerator 950 • Intel GMA 950
	• . • PCI Express x16 • 2048 x 1536/16 .
	(. 224 • SDRAM
	Analog Devices ADI 1891 HD • . • AC'97,
	Microsoft DirectSound
	• 10 / ., 100 / ., 1000 / . • Ethernet, Fast Ethernet, Gigabit Ethernet • . • IEEE 802.3 (Ethernet), IEEE 802.3ab (TP Gigabit Ethernet), IEEE 802.3u (Fast Ethernet)
	1 () x 5.25" x 1.6" ()
	1 () x 3.5" x 1" ()
	1 () x 3.5" x 1" (.)
	, ,
	, , , , , , , , , , , , , , , , , , , ,
	, , , , , , , , , , , , , , , , , , , ,
	, security slot, /
	. • DB-25F • ()
	VGA • HD-15F • ()
	• 3.5
	. • 3.5
	. / • 3.5 • ()
	. / • 3.5 • () · PS/2 • ()
	• PS/2 • () • PS/2 • ()
	Ethernet 10/100/1000BaseT • RJ-45 • ()
	6 x USB 2.0 • A • ()
1	2 USB 2.0 • A • ()

MAC.

IEEE.

IEEE

(International Organization for Standartization, ISO) (International Electrotechnical Commission, IEC).

IEEE 802.

1990

IEEE

IEEE[°]

EE 802

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802.1d – Spanning Tree Protocol

,

. ,

802.1q – VLAN tagging

VLAN

802.1q.

802.1p – Class of Service (Prioritization)

802.1d.

802.1d.

802.1x – Network access control

802.1w - Rapid Spaning Tree

```
802.3 – Ethernet 10BASE-T
                                 3, 4
                                        5.
 802.3u - Fast Ethernet 100BASE-TX
                                                     10
10BASE-T.
5.
                                                                           Ethernet.
 802.3ab – Gigabit Ethernet 1000BASE-T
                          Gigabit Ethernet
    5
                                 100
                                                                              4
                                                        / .
                                              250
 802.3ad - Link Agregation
802.3ae – 10 Gigabit Ethernet.
                                                       10 Gigabit Ethernet
                       -300
                                                        -10000
                                                            10 Gigabit Ethernet
                    (Dark Fiber),
                                                  (DWDM).
                                DWDM (Dense Wave Division Multiplexing)
 802.3af – Power over Ethernet
                                                         IP
 802.3z – Gigabit Ethernet 1000BASE-SX/LX/CX
                             Gigabit
                                       Ethernet
     5).
                                         220
                                                5000
                                      25
 802.3x - Flow Control
```

802.4 -75-1,5 10 / . , 802.3. **802.5** – Token Ring. Token Ring **IBM** 1970-4,16 250. 802.3. IEEE 802.5 Token Ring (MSAU - MultiStation Access Unit). Token IEEE 802.5 Ring IEEE 802.5 Token Ring 802.6 – Distributed Queue Dual Bus (DQDB) – . IEEE 802.6 MAN (Metropolitan Area Network), (QPSX - queuedpacket distributed-switch). 600 150 160 512. **802.8** – FDDI. **FDDI** 100 **FDDI** Token Ring

```
. 802.9 -
                                        (Integrated Voice & Data).
(Integrated Services Digital Network – ISDN)
(Public Switched Telephone Network - PSTN).
                                                                             Isochronous
            ) Ethernet
                          IsoEnet.
              10
                                                               96
              64
                  / .
                                                         16
                                                              / .
      802.11 - WLAN
                       2,4
                                                     "Ad-hok"
       "Ad-hoc" -
2,4
                                    83
                                               2,400
                                                            2,483
                                           (850-950
                                                       ),
          10
      802.11a -
                                                                                  5
                                                  54
                                                           / .
          200
      802.11b - High rate WLAN
                                       802.11.
       -5,5 11
                      / .
                                  802.11b
                                                                     802.11,
                                         DSSS.
                                                         802.11b
                          11
                                   /
5,2
       1 / .
      802.11g -
                                                            802.11a
                                                                              2,4
                             802.11b.
0-54
       /
                    2,4
      802.12 – VG AnyLAN.
                                                                       100 / ,
                                         (demand priority access method - DPAM),
       Ethernet
                    Token Ring (
                                                       UTP
                                    )
                             (
STP,
```

```
100
              1200
      802.15 - Wireless Personal Area Network (WPAN).
                                                 (WPAN)
        ( 10 ).
                                                               IEEE 802.15
            -2,4
                                                              (MAC)
      802.15.1 -
                         Bluetooth v. 1.1.
      802.15.3 -
                                                 WPAN.
             2,4
                     (OQPSK),
11
     55 / .
      802.15.4 -
                                           WPAN.
                                                          , 10
                               16
                                                    2,4
915
                               868
                                                                            20
250
      / .
      802.16 -
      16-66 .
      802.17 - Resilient Packet Ring (RPR).
                                                                         Ethernet-
SONET.
                                                           SONET.
                    SONET,
                                       RPR
              (Media Access Control - MAC),
                                                        RPR
                    Ethernet, SONET
                                      DWDM.
       , RPR-
```

1.	,	,	,	SOHO1: , SOHO2: , SOHO3:
2.	()	3 (4)	1 (3)	
3.	·	- 280 (- 500)	- 80 (- 100)	SOHO1: 2 SOHO2: 3 SOHO3:
4.		10	3	
5.	:	- 280 - 20 ISDN Phone -	- 80 Te - 20 ISDN Phone -	SOHO1: -2, T1, . -1 SOHO2: -3, ISDN -3 SOHO3:
6.	(-):	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			70	SOHO1: 20 SOHO2: 40 SOHO3:
	/			

1.	,	,	, -	SOHO1: , SOHO2: , SOHO3:
2.	()	2 (7)	1 (3)	
3.	:	- 1000 (- 1210)	330 (-)	SOHO1: 6 SOHO2: 3 SOHO3:
4.		6	9	
5.	:	-1000 - 150 ISDN Phone -	- 330 Te - 100 ISDN Phone -	SOHO1: -6,4 SOHO2: -3,2 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer- to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		30	SOHO1: 10 SOHO2: 20 SOHO3:

1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	1 (10)	3 (1)	
3.	:	- 1000 (- 1500)	- 60 (- 90)	SOHO1: 4 SOHO2: 3 SOHO3: 3
4.		10	6	
5.	:	- 1000 - ISDN Phone - 100 -	- 60 Te - ISDN Phone - 6	SOHO1: -4, ISDN Phone -4 SOHO2: -3, ISDN Phone -3 SOHO3: -3, ISDN Phone -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	GOVO1 50
9.	/ .		50	SOHO1: 50 SOHO2: 50 SOHO3: 50

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	03		.	
1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	3 (9)	1 (6)	
3.	:	9000	- 1000 (-)	SOHO1: 5 SOHO2: 5 SOHO3: 5
4.		15	10	
5.	÷	-9000 - 30 ISDN Phone -10 - -9	- 800 Te - 150 ISDN Phone - 50	SOHO1: -4,5 SOHO2: -4,5 SOHO3: -5,5
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer- to peer trafic small office peer-to-peer database voice over IP peer-to- peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	
9.	- / .		20	SOHO1: 30 SOHO2: 30 SOHO3: 60

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1.	,	,	,	SOHO1: ,
				COMOS
				SOHO2: ,
				SOHO3: ,
2.		4 (5)	1 (10)	
3.	,			SOHO1: 3
	:	-2500	_	SOHO2: 3
		(-	400	SOHO3: 1
		3000)	_	
4.		_)	
		5	2	
5.		-2500	- 400	SOHO1: -3, ISDN
	:	_	Te –	Phone – 1
		ISDN Phone – 100	ISDN Phone – 400	SOHO2: -3, ISDN
		100		Phone – 1
		100	_	SOHO3: -1, ISDN Phone – 1
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
0.		CAM-CADLAN peer-to peer	T 4 3 7	LAN peer-to peer
):	trafic	• LAN peer-to peer trafic	trafic
		 small office peer- 	• small office	 small office peer-to-
		to-peer	peer-to-peer	peer
		 database 	 database 	 database
		 voice over IP 	• voice over IP	• voice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		• SQL Server	• SQL Server	
	:	 FTP Server 	 FTP Server 	
		 Small office 	 Small office 	
		database server	database	
			server	
8.		• File server	• File server	
		• E-mail server	• E-mail	
		• FTP-server	server	
		 H TP-server 	• FTP-server	
			H TP-server	001101 40
9.				SOHO1: 40
			40	SOHO2: 40
			40	SOHO3: 40
	/ .			
	· •			

1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	1 (15)	4 (2)	
3.	:	- 3000 (- 6000)	800 (– 1000)	SOHO1: 4 SOHO2: 2 SOHO3: 2
4.		10	8	
5.	:	-3000 - 3000 ISDN Phone -	- 800 Te - 800 ISDN Phone -	SOHO1: -4,4 SOHO2: -2,1 SOHO3: -2,2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	•
8.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	
9.	/ .		60	SOHO1: 30 SOHO2: 20 SOHO3: 20

	00		T	
1.	,	,	,	SOHO1: ,
	,	,	,	,
				SOHO2: , SOHO3: ,
				,
2.	()	4 (5)	2 (2)	
3.	:	- 2000 (- 2500)	- 200 (SOHO1: 1 SOHO2: 1 SOHO3: 1
		2300)	-400)	
4.		5	5	
5.	:	- 2000 - ISDN Phone - 50 - 50	- 200 Te - ISDN Phone - 100 - 50	SOHO1: -1, ISDN Phone -1 SOHO2: -1, ISDN Phone -1 SOHO3: -1, ISDN Phone -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	
9.			100	SOHO1: 30 SOHO2: 30 SOHO3: 30

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	07			
1.	,	-	,	SOHO1: , SOHO2: , SOHO3: ,
4.	()	1 (12)	3 (9)	
3.	:	1200 (– 4000)	- 2700 (-	SOHO1: 5 SOHO2: 5 SOHO3: 5
4.		10	10	
5.	:	- 1200 ISDN Phone - 10	- 2700 Te - ISDN Phone -10	SOHO1: -5,5 SOHO2: -5,5 SOHO3: -5,5
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	·	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 30
	/ .		100	SOHO2: 30 SOHO3: 30

	T			
1.				SOHO1: ,
1.	,	,	,	SOHO1: ,
				,
				SOHO3:
				,
2.		3 (10)	2(4)	
3.	()			SOHO1: 3
٥.		_	_	SOHO1: 3 SOHO2: 2
	•	3000	960	SOHO2: 2 SOHO3: 2
		(-	-	201100.2
		3500)	1000)	
4.		30	10	
5.		- 3000	- 960	SOHO1: - 3,1,
	:	- 3000	Te – 960	1
		ISDN Phone –	ISDN Phone –	SOHO2: - 2,1, 1
		_	_	SOHO3: - 2,1,
				2
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	LAN peer-to	 LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peer	peer-to-peer	peer
		 database 	 database 	 database
		 voice over IP 	• voice over IP	• voice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		 SQL Server 	• SQL Server	
	:	 FTP Server 	FTP Server	
		 Small office 	• Small office	
		database server	database server	
8.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	H TP-server	001101 20
9.				SOHO1: 30
			70	SOHO2: 20
			70	SOHO3: 20
	/			

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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	1 (12)	2 (8)	
3.	:	1972 (– 2500)	- 1840 (–	SOHO1: 5 SOHO2: 5 SOHO3: 4
4.		7	5	
5.	:	- 1972 - 1900 ISDN Phone -	-1840 Te -1000 ISDN Phone -	SOHO1: -5, -5 SOHO2: -5, -5 SOHO3: -4, -4
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		60	SOHO1: 60 SOHO2: 50 SOHO3: 50

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	I			
1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3:
				ŕ
2.		3 (18)	2 (10)	
3.	,			SOHO1: 2
	:	_	_	SOHO2: 2
		3500	2030	SOHO3: 3
4.		,	,	
		9	8	
5.		- 3500 2500	- 2030	SOHO1: -2,
		-2500 ISDN Phone –	Te –63 ISDN Phone –	SOHO2: -2,
	•	-	-	1
		120		SOHO3: -3,
6.		• CAM-CAD	• CAM-CAD	1, -1 • CAM-CAD
0.		• LAN peer-to	CAM-CADLAN peer-to	LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peer	peer-to-peer	peer
		databasevoice over IP	databasevoice over IP	databasevoice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		SQL Server	SQL Server	•
	:	FTP Server	• FTP Server	
		• Small office	Small office	
8.		database serverFile server	database server	
0.		File serverE-mail server	File serverE-mail server	
		• FTP-server	• FTP-server	
		H TP-server	H TP-server	
9.				SOHO1: 40
			70	SOHO2: 40 SOHO3: 50
			, ,	501105. 50
1	/			

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		ISDN Phone –3360 – 210	ISDN Phone – –	SOHO2: -3,3, 3 SOHO3: -,2, 2
6. 7. 8.	:	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server H TP-server 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server H TP-server 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
9.			120	SOHO1: 60 SOHO2: 20 SOHO3: 20

	T			1
1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.				
2.	()	4 (5)	2 (3)	
3.	:	_	_	SOHO1: 2 SOHO2: 3
	•	4800	900	SOHO3: 3
		- (6000)	(
4.		6	6	
5.		- 4800	- 900	SOHO1: -2,
	:	- 4800 ISDN Phone -	Te – 900 ISDN Phone –	1,1 SOHO2: -3,
		_	_	1,1 SOHO3: -3,
				1,1
6.		CAM-CAD	CAM-CAD	• CAM-CAD
	():	• LAN peer-to peer trafic	• LAN peer-to peer trafic	LAN peer-to peer trafic
	,	• small office	• small office	• small office peer-to-
		peer-to-peer database	peer-to-peerdatabase	peer database
		databasevoice over IP	databasevoice over IP	databasevoice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		SQL Server	• SQL Server	
	:	• FTP Server	• FTP Server	
		• Small office database server	Small office database server	
8.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
9.		• H TP-server	H TP-server	SOHO1: 40
٦.				SOHO1: 40 SOHO2: 40
			90	SOHO3: 40
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1.	,	,	,	SOHO1: ,
	,	,		SOHO2: ,
				SOHO3: ,
2.				
	()	4 (6)	1 (7)	gorrot a
3.				SOHO1: 2
	:	4320	1050	SOHO2: 2 SOHO3: 2
		(_	(–	301103. 2
		5000)	2000)	
4.		,	,	
		4	5	
5.		- 4320	- 1050	SOHO1: -2, ISDN
		-	Te –	Phone – 1
	:	ISDN Phone –	ISDN Phone –	SOHO2: -2, ISDN
		43230	1050	Phone – 1 SOHO3: -2, ISDN
		_		Phone – 1
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
0.		• LAN peer-to	• LAN peer-to	LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peer	peer-to-peer	peer
		• database	• database	• database
		• voice over IP	• voice over IP	• voice over IP peer-to-
		peer-to-peer	peer-to-peer	peer
7.		• SQL Server	SQL Server	
	:	FTP Server	FTP Server	
		 Small office 	 Small office 	
		database server	database	
			server	
8.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
0		H TP-server	H TP-server	SOHO1: 30
9.				SOHO1: 30 SOHO2: 30
				SOHO2: 30 SOHO3: 30
			100	501105.50
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1.
SOHO2:
SOHO2:
SOHO2:
2. () 3 (9) 2 (2) 3. :
2. () 3 (9) 2 (2) 3. :
3. : SOHO1: 2 SOHO2: 2 SOHO3: 2 2025
SOHO2: 2 SOHO3: 2
2025 (
4.
3000) 5 5 5 5 5 5 5 5 5
4. 5 5 5. -2025 -900 SOHO1: -2,1,1 1 -2000 SOHO2: -2,1,1 1 SOHO3: -2,1,1 SOHO3: -2,1,1 2 SOHO3: -2,1,1 SOHO3: -2,1,1 3 SOHO3: -2,1,1 SOHO3: -2,1,1 4 SOHO3: -2,1,1 SOHO3: -2,1,1 5 SOHO3: -2,1,1 SOHO3: -2,1,1 6 SOHO3: -2,1,1 SOHO3: -2,1,1 9 SOHO3: -2,1,1 SOHO3: -2,1 9 SOHO3: -2,1 SOHO3: -2,1 9 SOHO3: -2,1 SOHO3: -2,1 9 SOHO3: -2,1 SOHO3: -2 9 SOHO3: -2 SOHO3: -2 <
5.
- 2000 Te - 100 SOHO2: -2,1,1
: ISDN Phone – ISDN Phone – SOHO2: -2,1,1 - SOHO3: -2,1,1 SOHO3: -2,1,1 6. CAM-CAD • LAN peer-to peer trafic • small office peer-to-peer • small office peer-to-peer • database
6. CAM-CAD LAN peer-to peer trafic small office peer-to-peer b. CAM-CAD
6. (): CAM-CAD • CAM-CAD • LAN peer-to peer trafic • small office peer-to-peer • small office peer-to-peer • database
6. (): CAM-CAD • CAM-CAD • LAN peer-to peer trafic • small office peer-to-peer • cam-cad •
 CAM-CAD LAN peer-to peer trafic small office peer-to-peer cAM-CAD LAN peer-to peer trafic small office peer-to-peer database
• LAN peer-to peer trafic • small office peer-to-peer • LAN peer-to peer trafic • small office peer-to-peer • LAN peer-to peer trafic • small office peer-to-peer • database
): peer trafic • small office peer-to-peer peer-to-peer peer trafic • small office peer trafic • small office peer • database
 small office peer-to-peer peer-to-peer small office peer to peer database
peer-to-peer peer-to-peer • database
The control of the co
• voice over IP • voice over IP peer
peer-to-peer peer-to-peer
7. SQL Server • SQL Server
• FTP Server • FTP Server
• Small office • Small office
database database
Server Server
8. • File server • File server
 E-mail server FTP-server E-mail server FTP-server
• H TP-server • H TP-server
9. SOHO1: 20
SOHO2: 20
60 SOHO3: 20

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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	1 (9)	2 (8)	
3.	:	- 1512 (- 2000)	- 1840 (-	SOHO1: 5 SOHO2: 5 SOHO3:
4.		7	5	
5.	:	- 1512 - 1512 ISDN Phone -	-1840 Te -1000 ISDN Phone -	SOHO1: -5, -5 SOHO2: -5, -5 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	poor
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		60	SOHO1: 35 SOHO2: 25 SOHO3:

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1.				SOHO1: ,
	,	,	,	SOHO2: ,
				SOHO3: ,
2.	()	2 (15)	1 (9)	
3.	:	2400 (-)	- 1008 (-)	SOHO1: 2 SOHO2: 2 SOHO3: 3
4.		4	7	
5.	:	- 2400 -2400 ISDN Phone - - 120	- 1008 Te -63 ISDN Phone -	SOHO1: -2, 1 SOHO2: -2, 1 SOHO3: -3,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 1, -1 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	SQL ServerFTP ServerSmall office database server	SQL ServerFTP ServerSmall office database server	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 40
	/ .		60	SOHO2: 40 SOHO3: 50

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1				COLIO1.
1.				SOHO1: ,
	,	,	,	SOHO2:
				, , ,
				SOHO3:
				, ,
2.		2 (5)	2 (2)	
_,	()	3 (5)	2 (3)	
3.	,			SOHO1: 7
	:	_	_	SOHO2: 5
		3375	480	SOHO3: 4
		(-)	(-)	
4.		5	4	
5.		-3375	- 480	SOHO1: - 7,
	:	- 150	Te - 200	2
		ISDN Phone –	ISDN Phone – 80	SOHO2: – 5,
		_	_	
				SOHO3: –4,
6.		• CAM-CAD	• CAM-CAD	CAM-CAD
υ.				
	():	 LAN peer-to peer trafic 	• LAN peer-to peer trafic	LAN peer-to peer trafic
	· ·	small office	• small office	• small office peer-
		peer-to-peer	peer-to-peer	to-peer
		• database	• database	database
		voice over IP	• voice over IP	voice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		• SQL Server	SQL Server	
•	:	• FTP Server	• FTP Server	
		 Small office 	• Small office	
		database server	database	
			server	
8.		File server	File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		• H TP-server	H TP-server	
9.				SOHO1: 40
				SOHO2: 30
			90	SOHO3: 25
	/			

1.				SOHO1: ,
	,	,	,	SOHO2: ,
				SOHO3: ,
2.		3 (9)	2 (3)	
3.	:	4455	660 (–)	SOHO1: 4 SOHO2: 4 SOHO3: 4
4.		5000)	5	
5.	:	- 4455 - ISDN Phone - 4455 -	- 660 Te - ISDN Phone - 660	SOHO1: -4, ISDN Phone -2 SOHO2: -4, ISDN Phone -2 SOHO3: -4, ISDN Phone -2
7. 8.	:	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
		E-mail serverFTP-serverH TP-server	E-mail serverFTP-serverH TP-server	
9.	/ .	- 11 11 -SCIVEI	80	SOHO1: 25 SOHO2: 25 SOHO3: 25

1.				SOHO1: ,
	,	,	,	SOHO2: ,
				SOHO3: ,
2.		3 (5)	1 (9)	
3.	:	2070	- 1566	SOHO1: 1 SOHO2: 2 SOHO3: 2
		(– 3000)	(-)	501103. 2
4.		6	4	
5.	·	- 2070 - 900 ISDN Phone -	- 1566 Te -54 ISDN Phone -	SOHO1: -1, 1 SOHO2: -2, . -1 SOHO3: -2,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	;	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	to peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			90	SOHO1: 30 SOHO2: 30 SOHO3: 25
	/ .			

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1.				SOHO1: ,
1.	,	,	,	SOHO2: ,
				SOHO3: ,
2.	()	2 (11)	1 (9)	
3.	:	5940 (-)	- 1575 (-)	SOHO1: 4 SOHO2: 3 SOHO3: 3
4.		6	7	
5.	:	- 5940 - ISDN Phone - 5940 -	- 1575 Te - ISDN Phone - 1575	SOHO1: -4, ISDN Phone -1 SOHO2: -3, ISDN Phone -2 SOHO3: -3, ISDN Phone -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/		70	SOHO1: 30 SOHO2: 26 SOHO3: 25
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SOHO1: ,
SOHO2:
SOHO3: ,
- SOHO1: 3 - SOHO2: 3 SOHO3: 3 - (
7 - 840 SOHO1: - 3
4950 Te -840 SOHO2: -3 - ISDN Phone - SOHO3: -3
 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer peer trafic small office peer-to-peer database voice over IP peer-to-peer
 SQL Server FTP Server Small office database server
• File server • E-mail server • FTP-server • H TP-server SOHO1: 45 SOHO2: 40 SOHO3: 35
A e e e e e e e e e e e e e e e e e e e

1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.	()	6 (7)	2 (6)	
3.	:	9000	1000 (–	SOHO1: 5 SOHO2: 5 SOHO3: 5
4.		14	9	
5.	:	-9000 - 30 ISDN Phone - 10	- 800 Te -150 ISDN Phone -50	SOHO1: -4,5 SOHO2: -4,5 SOHO3: -5, 5
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	10-2001
8.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	
9.			20	SOHO1: 30 SOHO2: 30 SOHO3: 60
	/ .			

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1.	,	,	,	SOHO1: ,
				SOHO2:
				SOHO3:
2.	()	4 (4)	1 (4)	
3.				SOHO1: 3
	:	2200		SOHO2: 2
		3200	800	SOHO3: 2
		4000)	1000)	
4.		5	10	
5.		-3200	- 800	SOHO1: -3
		- 3000	Te - 800	SOHO2: -2
	:	ISDN Phone – 200	ISDN Phone –	SOHO3: -2
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	 LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	 small office peer-to-
		peer-to-peer	peer-to-peer	peer
		• database	• database	• database
		• voice over IP	• voice over IP	• voice over IP peer-
7.		peer-to-peerSQL Server	peer-to-peerSQL Server	to-peer
′ •	:	• FTP Server	• FTP Server	
	•	• Small office	• Small office	
		database	database	
		server	server	
8.		File server	File server	
		• E-mail server	E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	H TP-server	
9.				SOHO1: 20
			400	SOHO2: 25
			100	SOHO3: 25
	/ .			
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1.				SOHO1: ,
	,		-	SOHO2 ,
				SOHO3: ,
2.	()	2 (10)	2 (4)	
3.	:	- 4320 (- 5000)	768 (–)	SOHO1: 3 SOHO2: 3 SOHO3: 3
4.		9	8	
5.	· ·	-4320 - 4320 ISDN Phone -	- 768 Te -768 ISDN Phone -	SOHO1: -3 SOHO2: -3 SOHO3: -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	SQL ServerFTP ServerSmall office database server	SQL ServerFTP ServerSmall office database server	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		65	SOHO1: 20 SOHO2: 15 SOHO3: 15

1.					
2. () 2 (9) 1 (10) 3. :					
SOHO2: SOHO3: SOHO3: SOHO3: SOHO3: SOHO3: SOHO3: SOHO1: 2 SOHO2: 4 SOHO2: 4 SOHO3: SOHO	1.				SOHO1: ,
2. () 2 (9) 1 (10) 3. :		,	,	,	SOHO3.
2. () 2 (9) 1 (10) SOHO1: 2 SOHO2: 4 SOHO3: (, , ,
3. : SOHO1: 2 SOHO2: 4 SOHO3: 4536 (SOHO3:
SOHO2: 4 SOHO3:	2.		2 (9)	1 (10)	
SOHO2: 4 SOHO3:	3)			SOHO1: 2
4. 6 6 6 5.	J.	:	_	_	
4. 6 6 6 54536 -108 ISDN Phone - 108 ISDN Phone - 108 ISDN Phone - 108 ISDN Phone - 108 EAN peer-to peer trafic SoHO3: - EAN peer-to peer trafic Somall office peer-to-peer database voice over IP peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server E-mail server E-ma			4536	1380	
Soloo) Soloo Sol					
5.			,	,	
CAM-CAD CAM-	4.		6	6	
SDN Phone - 108	5.		-4536	- 1380	SOHO1: -2, ISDN
- CAM-CAD - LAN peer-to peer trafic - small office peer-to-peer - database - voice over IP peer-to-peer - SQL Server - FTP Server - Small office database server - E-mail server - FTP-server - H TP-server - SOHO1: 26 SOHO2: 30			-108	Te –	I
CAM-CAD		:	ISDN Phone – 108	ISDN Phone – 60	SOHO2: –4, ISDN
 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer FTP Server Small office database server File server E-mail server FTP-server H TP-server H TP-server SOHO1: 26 SOHO2: 30 			_	_	
• LAN peer-to peer trafic • small office peer-to-peer • database • voice over IP peer-to-peer • FTP Server • Small office database server • FTP-server • E-mail server • H TP-server • SOHO1: 26 SOHO2: 30					
SQL Server Small office database Small office small office peer-to-peer to-peer	6.				
• small office peer-to-peer • database • voice over IP peer-to-peer • SQL Server • FTP Server • Small office peer-to-peer • database • voice over IP peer-to-peer • FTP Server • Small office database server 8. • File server • E-mail server • FTP-server • FTP-server • H TP-server • SOHO1: 26 SOHO2: 30			_	_	
peer-to-peer database voice over IP peer-to-peer SQL Server SQL Server FTP Server Small office database server Small office database server Small office database server File server E-mail server FTP-server FTP-server H TP-server SOHO1: 26 SOHO2: 30		():	_	_	
 database voice over IP peer-to-peer SQL Server FTP Server Small office database server 8. File server E-mail server FTP-server FTP-server FTP-server FTP-server FTP-server FTP-server FTP-server 9. SoHO1: 26 SOHO2: 30 					_
 voice over IP peer-to-peer SQL Server FTP Server Small office database server E-mail server FTP-server FTP-server FTP-server FTP-server FTP-server Small office database server 			-		_
7. SQL Server • SQL Server • FTP Server • FTP Server • Small office database server • Small office database server 8. • File server email server • E-mail server • FTP-server • FTP-server • H TP-server • H TP-server 9. SOHO1: 26 SOHO2: 30					
 SQL Server FTP Server Small office database server File server E-mail server FTP-server FTP-server H TP-server SQL Server FTP Server Bmall office database server File server E-mail server FTP-server H TP-server SOHO1: 26 SOHO2: 30 					
FTP Server Small office database server File server E-mail server FTP-server FTP-server H TP-server SOHO1: 26 SOHO2: 30	7				to-peer
 Small office database server File server E-mail server E-mail server FTP-server H TP-server Small office database server E-mail server FTP-server H TP-server SOHO1: 26 SOHO2: 30 	/.			_	
8. File server File server • E-mail server • E-mail server • E-mail server • FTP-server • FTP-server • FTP-server • H TP-server • H TP-server SOHO1: 26 SOHO2: 30		•			
8. • File server • E-mail server • FTP-server • H TP-server 9. SOHO1: 26 SOHO2: 30					
• E-mail server • FTP-server • H TP-server • H TP-server SOHO1: 26 SOHO2: 30	Q				
• FTP-server • H TP-server • H TP-server 9. SOHO1: 26 SOHO2: 30	0.				
9.					
9. SOHO1: 26 SOHO2: 30					
SOHO2: 30	0		- 11 11 - server	→ 11 11 -8€1 V€1	SOHO1: 26
	7.				
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1.				SOHO1: ,
	,	,	,	
				SOHO2:
				SOHO3:
2.		4 (5)	2 (2)	
	()	4 (5)	2 (3)	
3.				SOHO1: 3
	:	3000	- 580	SOHO2: 5 SOHO3:
		(-)	(–)	SONOS.
4.		7	/ /	
		·	4	
5.		-3000	- 580	SOHO1: -3,2
		– 150 ISDN Phone –	Te -200 ISDN Phone -80	SOHO2: – 5, 1
	•	ISDN FIIOHE –	ISDN FIIOHE – 60	SOHO3:
6.		CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	• LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		 small office 	• small office	• small office peer-
		peer-to-peerdatabase	peer-to-peerdatabase	to-peer database
		databasevoice over IP	databasevoice over IP	databasevoice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		SQL Server	SQL Server	1
	:	• FTP Server	 FTP Server 	
		 Small office 	 Small office 	
		database server	database server	
8.		• File server	• File server	
		E-mail serverFTP-server	E-mail serverFTP-server	
		H TP-server	H TP-server	
9.		11 11 501 101	11 11 501 101	SOHO1: 40
				SOHO2: 30
			80	SOHO3:
	/			
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				COMO
1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	2 (10)	1 (5)	
3.	:	2400 (-)	550 (–)	SOHO1: 6 SOHO2: 4 SOHO3:
4.		8	5	
5.	:	-2400 - 250 ISDN Phone -	- 550 Te - 300 ISDN Phone - 40	SOHO1: -6,3 SOHO2: -4,2 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	÷	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	10 pts
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			70	SOHO1: 50 SOHO2: 40 SOHO3:
	/ .			

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1.				SOHO1:
	,	,	,	, ,
				SOHO2:
		2 (7)	2 (4)	SOHO3:
2.		3 (7)	3 (4)	
3.				SOHO1: 7
	:	_	_	SOHO2: 6
		2100	600	SOHO3:
		_	(-)	
		2500)		
4.		10	8	
5.		-2100	- 600	SOHO1: -7,4
		- 1150	Te - 30	SOHO2: - 6,
	:	ISDN Phone –	ISDN Phone – 50	2
		_	_	SOHO3:
		10	5	
6.		• CAM-CAD	• CAM-CAD	CAM-CAD
).	• LAN peer-to	• LAN peer-to	• LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peer database	peer-to-peer database	peerdatabase
		voice over IP	• voice over IP	• voice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		SQL Server	gov g	to peer
			• SOL Server	
	:			
	:	• FTP Server	FTP Server	
	:			
8.	:	FTP ServerSmall office	FTP ServerSmall office	
8.	:	FTP ServerSmall office database server	FTP ServerSmall office database server	
8.	:	 FTP Server Small office database server File server 	FTP ServerSmall office database serverFile server	
8.	:	 FTP Server Small office database server File server E-mail server 	 FTP Server Small office database server File server E-mail server 	
8.	:	 FTP Server Small office database server File server E-mail server FTP-server 	 FTP Server Small office database server File server E-mail server FTP-server 	SOHO1: 20
	:	 FTP Server Small office database server File server E-mail server FTP-server 	 FTP Server Small office database server File server E-mail server FTP-server H TP-server 	SOHO2: 30
		 FTP Server Small office database server File server E-mail server FTP-server 	 FTP Server Small office database server File server E-mail server FTP-server 	
	:	 FTP Server Small office database server File server E-mail server FTP-server 	 FTP Server Small office database server File server E-mail server FTP-server H TP-server 	SOHO2: 30

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1.				SOHO1: ,
	,	,	,	
				SOHO2: ,
				SOHO3:
				,
2.		6 (8)	3 (6)	
_	()			COLIO1. 4
3.		_	_	SOHO1: 4 SOHO2: 4
	•	5000	1080	SOHO2: 4 SOHO3: 3
		-)	_	
			1200)	
4.		10	5	
5.		-5000	- 1080	SOHO1: -4,1
		- 2150	Te - 500	SOHO2: – 4,
	:	ISDN Phone –100	ISDN Phone – 10	2
		-	_	SOHO3: -3,
6.		• CAM-CAD	CAM-CAD	1 • CAM-CAD
0.		LAN peer-to	• LAN peer-to	LAN peer-to peer
	():	peer trafic	peer trafic	trafic
	,	• small office	• small office	small office peer-to-
		peer-to-peer	peer-to-peer	peer
		 database 	 database 	 database
		• voice over IP	• voice over IP	• voice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		• SQL Server	• SQL Server	
	:	• FTP Server	• FTP Server	
		• Small office database	• Small office database	
		server	server	
8.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	• H TP-server	
9.				SOHO1: 50
			100	SOHO2: 20
		İ	100	SOHO3: 30
			100	
	/ .		100	

1.				SOHO1: ,
	,	,	,	,
				SOHO2:
				SOHO3:
2.		1 (1.5)	1 (0)	501103.
	()	1 (15)	1 (9)	
3.				SOHO1: 2
	:	4000	720	SOHO2: 7 SOHO3:
		(–	/20 (–	SURUS:
		4500)	800)	
4.		7	6	
5.		-4000	- 720	SOHO1: -2,2
5.		-4000 - 3500	Te - 100	SOHO1: -2,2 SOHO2: -7,
	:	ISDN Phone – 20	ISDN Phone – 10	4
				SOHO3:
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	• LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peerdatabase	peer-to-peerdatabase	peerdatabase
		• voice over IP	• voice over IP	voice over IP peer-
		peer-to-peer	peer-to-peer	to-peer
7.		SQL Server	SQL Server	*
	:	• FTP Server	FTP Server	
		• Small office	 Small office 	
		database	database server	
8.		server	• Eile gerrer	
σ.		File serverE-mail server	File serverE-mail server	
		• FTP-server	• FTP-server	
		• H TP-server	H TP-server	
9.			11 11 501,01	SOHO1: 10
				SOHO2: 20
			60	SOHO3:
	/			

1				COLIO1.
1.				SOHO1: ,
	,	,	,	SOHO2:
				SOHO3: ,
2.	()	2 (9)	4 (6)	
3.	:	2500 (–	980	SOHO1: 7 SOHO2: 7 SOHO3: 5
		3000)	- 1000)	
4.		11	7	
5.	:	-2500 - ISDN Phone - 100 -	- 980 Te - ISDN Phone - 80	SOHO1: -7,5 SOHO2: -7, 4 SOHO3: -5,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.			P P	1 F
	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.	:	FTP ServerSmall office database	SQL ServerFTP ServerSmall office	
	:	 FTP Server Small office database server File server E-mail server FTP-server 	 SQL Server FTP Server Small office database server File server E-mail server FTP-server 	SOHO1: 40 SOHO2: 30 SOHO3: 20

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1.				SOHO1: ,
	,	,	,	SOHO2:
				SOHO3:
2.	()	1 (16)	4 (6)	
3.	:	- 1700 (-	630 (–)	SOHO1: 5 SOHO2: 8 SOHO3:
4.		2000)	_	
		8	5	
5.	:	-1700 - 200 ISDN Phone -	- 630 Te - 500 ISDN Phone -	SOHO1: -5,3 SOHO2: -8, 3 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	to peer
9.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	SOHO1: 20 SOHO2: 40 SOHO3:
	/ .		-	

			-	
1.				SOHO1: ,
	,	,	,	SOHO2: , SOHO3: ,
2.	()	3 (10)	5 (5)	
3.	:	- 6000 (- 6300)	1500 (-)	SOHO1: 4 SOHO2: 5 SOHO3: 6
4.		12	10	
5.	:	-6000 - 500 ISDN Phone - -	- 1500 Te - 400 ISDN Phone 5	SOHO1: -4,1 SOHO2: -5, 2 SOHO3: -6,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		 File server E-mail server FTP-server H TP-server 	 File server E-mail server FTP-server H TP-server 	
9.	/ .	222.52	40	SOHO1: 10 SOHO2: 10 SOHO3: 20

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				1
1.				SOHO1: ,
	,	,	,	SOHO2: ,
				SOHO3:
2.		2 (25)	4 (10)	501103.
	()	3 (25)	4 (10)	
3.				SOHO1: 8
	:	7500	4000	SOHO2: 4
		7500	4000	SOHO3:
		8000)	4400)	
4.		15	10	
5.		-7500	- 4000	SOHO1: -8,8
		- 7000	Te – 2000	SOHO2: – 4,
	:	ISDN Phone – 500	ISDN Phone – 70	3
		10	5	SOHO3:
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	 LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		 small office 	 small office 	• small office peer-
		peer-to-peer	peer-to-peer	to-peer
		• database	• database	• database
		• voice over IP	• voice over IP	• voice over IP peer-
7.		peer-to-peerSQL Server	peer-to-peerSQL Server	to-peer
'	:	• FTP Server	• FTP Server	
		 Small office 	• Small office	
		database server	database server	
8.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		• H TP-server	• H TP-server	GOHO1 50
9.				SOHO1: 50 SOHO2: 20
			110	SOHO2: 20 SOHO3:
			110	
	/ .			

	T		T	T
1.				SOHO1: ,
	,	,	,	SOHO2:
				SOHO3:
2.	()	1 (9)	1 (3)	
3.	:	900 (– 950)	210 (-)	SOHO1: 2 SOHO2: 4 SOHO3:
4.		11	5	
5.	:	-900 - 100 ISDN Phone -	- 210 Te - 20 ISDN Phone -	SOHO1: -2,1 SOHO2: -4, 2 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		 File server E-mail server FTP-server H TP-server 	 File server E-mail server FTP-server H TP-server 	SOHO1: 10 SOHO2: 20 SOHO3:
	/ .			

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1.	,	,	,	SOHO1: ,
			-	SOHO2: , SOHO3: ,
2.	()	5 (6)	2 (4)	
3.	:	2400 (– 3000)	- 400 (- 440)	SOHO1: 3 SOHO2: 5 SOHO3: 3
4.		10	5	
5.	:	- 2400 - 1500 ISDN Phone -	- 400 Te - 200 ISDN Phone -	SOHO1: -3,2 SOHO2: -5,4 SOHO3: -3,3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	to peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			60	SOHO1: 20 SOHO2: 10 SOHO3:
1	,			1

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				·
1.				SOHO1: ,
	,	,	,	SOHO2:
				SOHO3:
2.	()	2 (15)	3 (4)	
3.	:	- 4400 (- 5000)	600 (-)	SOHO1: 7 SOHO2: 6 SOHO3:
4.		10	5	
5.	:	-5000 - 3150 ISDN Phone -	- 600 Te - 100 ISDN Phone -	SOHO1: -7,4 SOHO2: -6, 3 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	to peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		90	SOHO1: 30 SOHO2: 20 SOHO3:

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1.	,	,	,	SOHO1: , SOHO2: ,
2.		3 (9)	3 (5)	SOHO3:
3.		- J (9)	3 (3)	SOHO1: 4 SOHO2: 8
		4040 (– 4200)	1000 (– 1100)	SOHO3:
4.		12	9	
5.	:	-4040 - 3000 ISDN Phone - -	- 1000 Te - 700 ISDN Phone	SOHO1: -4,2 SOHO2: -8,6 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	to peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 20 SOHO2: 40 SOHO3:

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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	1 (12)	3 (9)	
3.	:	1200 (–	2700 (-)	SOHO1: 5 SOHO2: 5 SOHO3: 5
4.		4000)	10	
5.	:	-1200 - ISDN Phone – 10	-2700 Te - ISDN Phone -10	SOHO1: -5, 5 SOHO2: -5, 5 SOHO3: -5,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	;	SQL ServerFTP ServerSmall office database server	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		100	SOHO1: 30 SOHO2: 30 SOHO3: 30

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	T			T
1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	3 (10)	2(4)	
3.	:	3000 (– 3500)	960 (– 1000)	SOHO1: 3 SOHO2: 2 SOHO3: 2
4.		300)	10	
5.	:	- 3000 - 3000 ISDN Phone -	- 960 Te - 960 ISDN Phone -	SOHO1: - 3,1, 1 SOHO2: - 2,1, 1
		_	_	SOHO3: - 2,1, 2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	·	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			70	SOHO1: 30 SOHO2: 20 SOHO3: 20

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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	1 (12)	2 (8)	
3.	:	1972 (– 2500)	- 1840 (–	SOHO1: 5 SOHO2: 5 SOHO3: 4
4.		7	5	
5.	:	- 1972 - 1900 ISDN Phone -	-1840 Te -1000 ISDN Phone -	SOHO1: -5, -5 SOHO2: -5, -5 SOHO3: -4, -4
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	P
8.		 File server E-mail server FTP-server H TP-server 	 File server E-mail server FTP-server H TP-server 	
9.	/ .	. 222.122	60	SOHO1: 60 SOHO2: 50 SOHO3: 50

1				COLIO1
1.	,	,	,	SOHO1: ,
				SOLIO3:
				SOHO2:
				SOHO3:
_				
2.		4 (5)	2 (6)	
3.	()			SOHO1: 7
3.				SOHO1: 7 SOHO2: 5
	•	3420	1536	SOHO2: 5 SOHO3: 5
		((301103. 3
		4500)	2000)	
4.		,	,	
••		9	4	
5.		- 3420	- 1536	SOHO1: -7, ISDN
••	:	_	Te –	Phone –5
	•	ISDN Phone –	ISDN Phone –	SOHO2: -5, ISDN
		3000	1000	Phone –5
				SOHO3: -5, ISDN
		- 180	-10	Phone –5
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	 LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peer	peer-to-peer	peer
		• database	 database 	database
		• voice over IP	 voice over IP 	• voice over IP peer-to-
		peer-to-peer	peer-to-peer	peer
7.		SQL Server	SQL Server	*
	:	FTP Server	• FTP Server	
		Small office	 Small office 	
		database server	database server	
8.		File server	File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	 H TP-server 	
9.				SOHO1: 60
				SOHO2: 30
			120	SOHO3: 30
	/ .			
		l .		

1. 2. 3.	· ()	2 (15) - 6720 (, - 1 (30) - 3750 (SOHO1: , , , , , , , , , , , , , , , , , , ,
4.		8000)	5	
5.	·	- 6720 -3360 ISDN Phone - 3360 - 210	- 3750 Te -3750 ISDN Phone -	SOHO1: -3,3, 3 SOHO2: -3,3, 3 SOHO3: -,2, 2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	÷	SQL ServerFTP ServerSmall office database server	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 60 SOHO2: 20 SOHO3: 20

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1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.	()	4 (5)	2 (3)	
3.	:	4800	900	SOHO1: 2 SOHO2: 3 SOHO3: 3
		6000)	1000)	
4.		6	6	
5.	:	- 4800 - 4800 ISDN Phone -	- 900 Te - 900 ISDN Phone -	SOHO1: -2,1, 1 SOHO2: -3,1, 1 SOHO3: -3,1,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		90	SOHO1: 40 SOHO2: 40 SOHO3: 40

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1. 2. 3.	· · · · · · · · · · · · · · · · · · ·	, 4 (6) - 4320	, 1 (7) — 1050	SOHO1: , , , , , , , , , , , , , , , , , , ,
4.		5000)	2000)	
5.	:	4 - 4320 - ISDN Phone – 43230	5 - 1050 Te - ISDN Phone - 1050	SOHO1: -2, ISDN Phone -1 SOHO2: -2, ISDN Phone -1 SOHO3: -2, ISDN Phone -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	govot co
9.	/ .		100	SOHO1: 30 SOHO2: 30 SOHO3: 30

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1.	,	,	,	SOHO1: ,
				SOHO2:
				SOHO3: ,
2.	()	3 (9)	2 (2)	
3.				SOHO1: 2
	:	_	_	SOHO2: 2
		2025	900	SOHO3: 2
		_	_)	
		3000)		
4.		5	5	
5.		- 2025	- 900	SOHO1: -2,1,
		- 2000	Te - 100	1
	:	ISDN Phone –	ISDN Phone –	SOHO2: -2,1,
				1
		_	_	SOHO3: -2,1, 1
6.		CAM-CAD	CAM-CAD	CAM-CAD
		• LAN peer-to	• LAN peer-to	LAN peer-to peer trafic
	():	peer trafic	peer trafic	• small office peer-to-
		• small office	• small office	peer
		peer-to-peer	peer-to-peer	• database
		 database 	 database 	• voice over IP peer-to-
		• voice over IP	• voice over IP	peer
		peer-to-peer	peer-to-peer	-
7.		SQL Server	SQL Server	
	:	• FTP Server	FTP Server	
		 Small office 	 Small office 	
		database	database	
		server	server	
8.		• File server	File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	H TP-server	
9.				SOHO1: 20
				SOHO2: 20
			60	SOHO3: 20
	/ .			

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1.				SOHO1: ,
1.	,	,	,	SOHO2:
				,
				SOHO3:
2.		1 (0)	2 (8)	
	()	1 (9)	2 (8)	
3.				SOHO1: 5
	:	_	_	SOHO2: 5
		1512	1840	SOHO3:
		_	_	
		2000))	
4.		7	5	
5.		- 1512	-1840	SOHO1: -5,
~•	:	- 1512	Te -1000	- 5
	•	ISDN Phone –	ISDN Phone –	SOHO2: -5,
		18BT (Thome	18BT (THORE	- 5
		_	_	SOHO3:
6.		CAM-CAD	CAM-CAD	CAM-CAD
			• LAN neer-to	• LAN neer-to neer
):	LAN peer-to peer trafic	LAN peer-to peer trafic	LAN peer-to peer trafic
	():	peer trafic	peer trafic	trafic
	():	peer traficsmall office	peer traficsmall office	traficsmall office peer-to-
	():	peer traficsmall officepeer-to-peer	peer traficsmall officepeer-to-peer	traficsmall office peer-to-peer
	():	peer traficsmall officepeer-to-peerdatabase	peer traficsmall officepeer-to-peerdatabase	traficsmall office peer-to-peerdatabase
	():	 peer trafic small office peer-to-peer database voice over IP 	 peer trafic small office peer-to-peer database voice over IP 	 trafic small office peer-to-peer database voice over IP peer-to-
7	():	 peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 peer trafic small office peer-to-peer database voice over IP peer-to-peer 	traficsmall office peer-to-peerdatabase
7.	.):	 peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server 	 peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server 	 trafic small office peer-to-peer database voice over IP peer-to-
7.	; ;	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server	 trafic small office peer-to-peer database voice over IP peer-to-
7.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office	 trafic small office peer-to-peer database voice over IP peer-to-
7.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database	 trafic small office peer-to-peer database voice over IP peer-to-
	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server	 trafic small office peer-to-peer database voice over IP peer-to-
7.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server	 trafic small office peer-to-peer database voice over IP peer-to-
	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server	 trafic small office peer-to-peer database voice over IP peer-to-
	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	 trafic small office peer-to-peer database voice over IP peer-to-
8.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server	trafic small office peer-to-peer database voice over IP peer-to-peer
	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	trafic • small office peer-to- peer • database • voice over IP peer-to- peer
8.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server H TP-server	trafic • small office peer-to- peer • database • voice over IP peer-to- peer SOHO1: 35 SOHO2: 25
8.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	trafic • small office peer-to- peer • database • voice over IP peer-to- peer
8.	:	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server	peer trafic small office peer-to-peer database voice over IP peer-to-peer SQL Server FTP Server Small office database server File server E-mail server FTP-server H TP-server	trafic • small office peer-to- peer • database • voice over IP peer-to- peer SOHO1: 35 SOHO2: 25

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1.	,	,	,	SOHO1: ,
				COLIO2.
				SOHO2: ,
				SOHO3: ,
2.	()	2 (15)	1 (9)	
3.	,			SOHO1: 2
	:	-	-	SOHO2: 2
		2400	1008	SOHO3: 3
4		_)	(–)	
4.		4	7	
5.		- 2400	- 1008	SOHO1: -2,
		-2400	Te –63	1
	:	ISDN Phone –	ISDN Phone –	SOHO2: – 2,
		120		1
		<u>- 120</u>	_	SOHO3: -3,1,
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	 LAN peer-to peer
	():	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peer	peer-to-peer	peer
		 database 	 database 	 database
		 voice over IP 	 voice over IP 	• voice over IP peer-to-
		peer-to-peer	peer-to-peer	peer
7.		 SQL Server 	 SQL Server 	
	:	FTP Server	 FTP Server 	
		 Small office 	 Small office 	
		database server	database server	
8.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	H TP-server	001101 40
9.				SOHO1: 40
			60	SOHO2: 40 SOHO3: 50
			UU	SUNUS. SU

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1.				SOHO1: ,
1.	,	,	,	SOHO2:
				,
				SOHO3:
				,
2.		3 (5)	2 (3)	
	()	3 (3)	2 (3)	
3.				SOHO1: 7
	:	_	_	SOHO2: 5
		3375	480	SOHO3: 4
		(-)	_)	
4.		8	4	
5.		-3375	- 480	SOHO1: -7,2
		- 150	Te – 200	SOHO2: – 5,1
	:	ISDN Phone –	ISDN Phone – 80	SOHO3: –4,1
		_		
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	• LAN peer-to	• LAN peer-to peer
):	peer trafic	peer trafic	trafic
		• small office	• small office	• small office peer-to-
		peer-to-peerdatabase	peer-to-peer database	peerdatabase
		databasevoice over IP		
		peer-to-peer	• voice over IP peer-to-peer	• voice over IP peer-to- peer
7.		• SQL Server	• SQL Server	peer
′•	•	• FTP Server	• FTP Server	
	•	Small office	• Small office	
		database server	database	
		database server	server	
8.		File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		• H TP-server	H TP-server	
9.				SOHO1: 40
				SOHO2: 30
			90	SOHO3: 25
	/ .			

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1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.	()	3 (9)	2 (3)	
3.	:	- 4455 (– 5000)	- 660 (-)	SOHO1: 4 SOHO2: 4 SOHO3: 4
4.		11	5	
5.	:	- 4455 - ISDN Phone - 4455	- 660 Te - ISDN Phone - 660	SOHO1: -4, ISDN Phone -2 SOHO2: -4, ISDN Phone -2 SOHO3: -4, ISDN Phone -2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 25
	/ .		80	SOHO2: 25 SOHO3: 25

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	3 (5)	1 (9)	
3.	:	2070 (– 3000)	- 1566 (-)	SOHO1: 1 SOHO2: 2 SOHO3: 2
4.		6	4	
5.	:	- 2070 - 900 ISDN Phone -	- 1566 Te -54 ISDN Phone -	SOHO1: -1,1 SOHO2: -2,1 SOHO3: -2,1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		90	SOHO1: 30 SOHO2: 30 SOHO3: 25

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	2 (11)	1 (9)	
3.	:	5940 (–)	1575 (–)	SOHO1: 4 SOHO2: 3 SOHO3: 3
4.		6	7	
5.	:	- 5940 - ISDN Phone - 5940	- 1575 Te - ISDN Phone - 1575	SOHO1: -4, ISDN Phone -1 SOHO2: -3, ISDN Phone -2 SOHO3: -3, ISDN Phone -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server File server 	 SQL Server FTP Server Small office database server File server 	
9.		E-mail serverFTP-serverH TP-server	E-mail serverFTP-serverH TP-server	SOHO1: 30 SOHO2: 26
	/ .		70	SOHO2: 25 SOHO3: 25

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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	3 (11)	1 (12)	
3.	:	- 4950 (– 5000)	840 (– 1000)	SOHO1: 3 SOHO2: 3 SOHO3: 3
4.		5	7	
5.	·	-4950 - 4950 ISDN Phone –	- 840 Te -840 ISDN Phone -	SOHO1: -3 SOHO2: -3 SOHO3: -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	SQL ServerFTP ServerSmall office database server	SQL ServerFTP ServerSmall office database server	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	,		90	SOHO1: 45 SOHO2: 40 SOHO3: 35
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1.	,	,	,	SOHO1: ,
				SOHO2: , SOHO3:
2.	()	2 (24)	3 (9)	
3.	:	8320 (– 5000)	2380 (-)	SOHO1: 3 SOHO2: 2 SOHO3:
4.		12	11	
5.	:	- 8320 - ISDN Phone - 4320	- 2380 Te - ISDN Phone - 1980	SOHO1: -3, ISDN Phone -1 SOHO2: -2,1,1 SOHO3: -
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server File server 	 SQL Server FTP Server Small office database server File server 	
		E-mail serverFTP-serverH TP-server	E-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 30 SOHO2: 20 SOHO3:

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1.	,	,	,	SOHO1: ,
				SOHO2: SOHO3:
2.		4 (4)	1 (4)	501103.
3.	:	3200	800	SOHO1: 3 SOHO2: 2 SOHO3: 2
		4000)	1000)	
4.		5	10	
5.	:	-3200 - 3000 ISDN Phone - 200	- 800 Te - 800 ISDN Phone -	SOHO1: -3 SOHO2: -2 SOHO3: -2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	peci
9.		 File server E-mail server FTP-server H TP-server 	 File server E-mail server FTP-server H TP-server 	SOHO1: 20 SOHO2: 25 SOHO3: 25
	/ .			

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1.	,	,	,	SOHO1: ,
			-	SOHO2 , SOHO3: ,
2.	()	2 (10)	2 (4)	
3.	:	4320 (– 5000)	768 (-)	SOHO1: 3 SOHO2: 3 SOHO3: 3
4.		9	8	
5.	:	-4320 - 4320 ISDN Phone –	- 768 Te -768 ISDN Phone -	SOHO1: -3 SOHO2: -3 SOHO3: -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			65	SOHO1: 20 SOHO2: 15 SOHO3: 15

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3:
2.	()	4 (9)	2 (10)	
3.	:	- 4900 (- 5000)	- 1200 (- 1300)	SOHO1: 2 SOHO2: 4 SOHO3:
4.		7	8	
5.	·	-4900 -108 ISDN Phone - 108	- 1200 Te -120 ISDN Phone - 60	SOHO1: -2, ISDN Phone -1 SOHO2: -4, ISDN Phone -1 SOHO3: -
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOLIO1. 26
9.	/ .		75	SOHO1: 26 SOHO2: 30 SOHO3:

				1
1.	,	,	,	SOHO1: , SOHO2: , SOHO3:
2.	()	1 (5)	1 (6)	
3.	:		- 180 (- 200)	SOHO1: 2 SOHO2: 3 SOHO3:
4.		10	4	
5.	:	- 280 - 20 ISDN Phone -	- 180 Te - 20 ISDN Phone -	SOHO1: -2, T1, 1 SOHO2: -3, ISDN -3 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		70	SOHO1: 20 SOHO2: 40 SOHO3:

1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	2 (10)	4 (2)	
3.	:	1000 (– 1500)	- 60 (- 90)	SOHO1: 4 SOHO2: 3 SOHO3: 3
4.		10	6	
5.	·	- 1000 - ISDN Phone - 100	- 60 Te - ISDN Phone - 6	SOHO1: -4, ISDN Phone -4 SOHO2: -3, ISDN Phone -3 SOHO3: -3, ISDN Phone -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	govot so
9.	/ .		50	SOHO1: 50 SOHO2: 50 SOHO3: 50

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1.	,	1 (24)	,	SOHO1: , SOHO2: , SOHO3:
3.	:	1 (24) - 6320 (- 7000)	3 (9) - 1980 (-)	SOHO1: 3 SOHO2: 2 SOHO3:
4.		12	11	
5.	:	- 6320 - ISDN Phone - 4320	- 1980 Te - ISDN Phone - 1980	SOHO1: -3, ISDN Phone -1 SOHO2: -2,1,1 SOHO3: -
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 30 SOHO2: 20 SOHO3:

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1.	,	,	,	SOHO1: ,
				SOHO2: , SOHO3: ,
2.	()	4 (5)	1 (10)	,
3.	:	2500 (– 3000)	- 400 (-)	SOHO1: 3 SOHO2: 3 SOHO3: 1
4.		5	2	
5.	:	- 2500 ISDN Phone 100	- 400 Te - ISDN Phone - 400	SOHO1: -3, ISDN Phone - 1 SOHO2: -3, ISDN Phone - 1 SOHO3: -1, ISDN Phone - 1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		40	SOHO1: 40 SOHO2: 40 SOHO3: 40

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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	1(15)	4 (3)	
3.	:	_	_	SOHO1: 4 SOHO2: 2
		4000	900	SOHO3: 2
		_	_	
		6000)	1000)	
4.		10	8	
5.		-4000	- 900	SOHO1: - 4,4
	:	- 3000	Te - 800	SOHO2: - 2,1
		ISDN Phone –	ISDN Phone –	SOHO3: - 2,2
		_	_	
6.		• CAM-CAD	• CAM-CAD	CAM-CAD
		• LAN peer-to	• LAN peer-to	• LAN peer-to peer trafic
	():	peer trafic	peer trafic	• small office peer-to-
		• small office	• small office	peer
		peer-to-peer	peer-to-peer	database
		 database 	database	• voice over IP peer-to-
		• voice over IP	• voice over IP	peer
		peer-to-peer	peer-to-peer	1
7.		SQL Server	SQL Server	
	:	• FTP Server	FTP Server	
		 Small office 	Small office	
		database	database	
		server	server	
8.		File server	File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	H TP-server	
9.				SOHO1: 30
				SOHO2: 20
			60	SOHO3: 20
	/ .			

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	4 (5)	2 (2)	
3. 4.	:	2000 (– 2500)	- 200 (- 400)	SOHO1: 1 SOHO2: 1 SOHO3: 1
5				COLIO1. 1 ICDN
5.	:	- 2000 - ISDN Phone - 50 - 50	- 200 Te - ISDN Phone - 100 -50	SOHO1: -1, ISDN Phone -1 SOHO2: -1, ISDN Phone -1 SOHO3: -1, ISDN Phone -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		100	SOHO1: 30 SOHO2: 30 SOHO3: 30

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1. 2.	,	4 (5)	2 (7)	SOHO1: , SOHO2: , SOHO3:
3.	:	1700 (-)	520 (-)	SOHO1: 3 SOHO2: 5 SOHO3:
5.	:	7 -1700 - 150 ISDN Phone -	9 - 520 Te - 200 ISDN Phone - 80	SOHO1: -3,2 SOHO2: -5,1 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	SQL ServerFTP ServerSmall office database server	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 40
7.	/ .		80	SOHO1: 40 SOHO2: 30 SOHO3:

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SOHO1: , SOHO2: ,
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SOHO3:
SOHO1: 3 SOHO2: 5 SOHO3:
SOHO1: -3,2 SOHO2: -5,1 SOHO3:
 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
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ver
SOHO1: 40 SOHO2: 30 SOHO3:

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1.	,	,	,	SOHO1: , SOHO2: ,
2.				SOHO3:
	()	4 (6)	1 (4)	
3.	:	940 (– 1000)	- 84 (– 100)	SOHO1: 2 SOHO2: 3 SOHO3:
4.		11	4	
5.	:	- 940 - 120 ISDN Phone -	- 84 Te - 20 ISDN Phone -	SOHO1: -2, T1, 1 SOHO2: -3, ISDN -3 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	;	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	
9.	/ .		70	SOHO1: 20 SOHO2: 40 SOHO3:

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1				COLIO1.
1.	,	,	,	SOHO1: , SOHO2: ,
				ЗОПО 2: ,
				SOHO3:
2.				,
		4 (13)	3(5)	
3.				SOHO1: 3
	:	_	_	SOHO2: 2
		4000	1260	SOHO3: 2
		_	_	
		4500)	1400)	
4.		20	10	
5.		- 4000	- 1260	SOHO1: - 3,1,
	:	- 3000	Te - 1000	1
		ISDN Phone –	ISDN Phone –	SOHO2: -2,1,
				1
		_	_	SOHO3: - 2,1,
		CARCAR	0135.015	2
6.		CAM-CAD	• CAM-CAD	• CAM-CAD
	():	• LAN peer-to	• LAN peer-to	• LAN peer-to peer trafic
	():	peer traficsmall office	peer trafic	• small office peer-to-
		 small office peer-to-peer 	• small office	peer database
		database	peer-to-peerdatabase	
		voice over IP	voice over IP	• voice over IP peer-to- peer
		peer-to-peer	peer-to-peer	рест
7.		• SQL Server	• SQL Server	
'	:	• FTP Server	• FTP Server	
		Small office	Small office	
		database	database	
		server	server	
8.		File server	File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
		• H TP-server	• H TP-server	
9.				SOHO1: 30
				SOHO2: 20
			70	SOHO3: 20
	,			
	/ .			

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	2 (19)	2 (5)	
3.	:	8100 (-)	- 1000 (-)	SOHO1: 5 SOHO2: 5 SOHO3: 5
4.		18	10	
5.	:	-8100 - 3000 ISDN Phone -10	- 1000 Te -750 ISDN Phone -50	SOHO1: -4,5 SOHO2: -4,5 SOHO3: -5,5
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		20	SOHO1: 30 SOHO2: 30 SOHO3: 60

1. 2. 3.	· ()	3 (16) - 3980 (, 2 (4) — 1000 (—)	SOHO1: , , , , , , , , , , , , , , , , , , ,
5.	:	12 - 3980 - 2000 ISDN Phone - 100	5 - 1000 Te - 250 ISDN Phone - 30	SOHO1: -6,5 SOHO2: -4,5 SOHO3: -8,5
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	•
9.		 File server E-mail server FTP-server H TP-server 	 File server E-mail server FTP-server H TP-server 	SOHO1: 30 SOHO2: 30 SOHO3: 20

1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.	()	1 (25)	3 (4)	
3.	:	- 3000 (– 3200)	900	SOHO1: 9 SOHO2: 8 SOHO3: 5
4.		9	6	
5.	·	-3000 - 2000 ISDN Phone - 100	- 900 Te -500 ISDN Phone -50	SOHO1: -9,5 SOHO2: -8,5 SOHO3: -5,
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8. 9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 40
	/ .		70	SOHO2: 30 SOHO3: 20

1.	,	,	,	SOHO1: ,
				SOHO2: , SOHO3: ,
2.	()	3(5)	3 (6)	
3.	:	1420 (– 1500)	- 1200 (- 1300)	SOHO1: 7 SOHO2: 5 SOHO3: 5
4.		9	6	
5.	:	- 1420 ISDN Phone - 1000	- 1200 Te - ISDN Phone - 1000	SOHO1: -7, ISDN Phone -5 SOHO2: -5, ISDN Phone -5 SOHO3: -5, ISDN
		- 180	-8	Phone –5
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7. 8.	;	SQL ServerFTP ServerSmall office database server	 SQL Server FTP Server Small office database server 	
σ.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 50 SOHO2: 40 SOHO3: 20

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1.	, ()	3 (15)	5 (3)	SOHO1: , SOHO2: , SOHO3: ,
3.	:	- 4000 (- 6000)	900 (– 1000)	SOHO1: 5 SOHO2: 6 SOHO3: 7
5.	:	10 -4000 - 3000 ISDN Phone -	- 900 Te - 800 ISDN Phone -	SOHO1: - 5,4 SOHO2: - 6,1 SOHO3: - 7,2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 40 SOHO2: 20
	/ .		80	SOHO2: 20 SOHO3: 20

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	1 (40)	5 (3)	
3.	:	- 4000 (- 5000)	- 1300 (– 1500)	SOHO1: 7 SOHO2: 3 SOHO3: 5
4.		,	,	
		15	9	
5.	:	-4000 - 2000 ISDN Phone - 1000	- 1300 Te - 500 ISDN Phone -200	SOHO1: - 7,4 SOHO2: - 3,1 SOHO3: - 5,2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8. 9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 50
	/ .		100	SOHO2: 10 SOHO3: 20

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1.	,	,	,	SOHO1: ,
				SOHO2: , SOHO3: ,
2.	()	3 (10)	4 (3)	,
3.	:	- 4000 (– 5000)	900 (– 1200)	SOHO1: 2 SOHO2: 3 SOHO3: 3
4.		8	5	
5.	:	- 4000 - 2800 ISDN Phone -	- 900 Te - 800 ISDN Phone -	SOHO1: -2,1, 1 SOHO2: -3,1, 1 SOHO3: -3,1, 1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			90	SOHO1: 40 SOHO2: 40 SOHO3: 40
	/ .			

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1.	,	,	,	SOHO1: ,
		-		SOHO2: ,
				SOHO3: ,
2.	()	1 (16)	4 (9)	
3.	:	- 1600 (-	2700 (-)	SOHO1: 6 SOHO2: 5 SOHO3: 3
4.		4000)	10	
		11	10	
5.	:	-1600 - ISDN Phone – 10	-2700 Te - ISDN Phone -10	SOHO1: -6,5 SOHO2: -5,5 SOHO3: -3,3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7. 8.	÷	 SQL Server FTP Server Small office database server File server 	 SQL Server FTP Server Small office database server File server 	
9.		E-mail serverFTP-serverH TP-server	E-mail serverFTP-serverH TP-server	SOHO1: 30
	/ .		100	SOHO2: 30 SOHO3: 30

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1.				SOHO1:
1.	,	,	,	SOHO1: , SOHO2: ,
				,
				SOHO3:
				,
2.		1 (0)	2 (2)	
		1 (9)	2 (2)	
3.	/			SOHO1: 3
	:	_	_	SOHO2: 2
		550	110	SOHO3: 2
		_	_	
		700)	150)	
4.		5	5	
5.		- 550	- 110	SOHO1: -3,1,
		- 200	Te - 100	1
	:	ISDN Phone –	ISDN Phone –	SOHO2: -2,1,
				1
		_	_	SOHO3: -2,1,
		CAMCAD	CAMCAD	1
6.		CAM-CAD	CAM-CAD	• CAM-CAD
	():	• LAN peer-to	• LAN peer-to	LAN peer-to peer trafic
).	peer trafic	peer trafic	• small office peer-to-
		• small office	• small office	peer
		peer-to-peer	peer-to-peer	• database
		• database	• database	• voice over IP peer-to-
		• voice over IP	• voice over IP	peer
7		peer-to-peer	peer-to-peer	
7.		• SQL Server	• SQL Server	
	•	• FTP Server	• FTP Server	
		• Small office	Small office	
		database	database	
8.		server	server	
σ.		• File server	• File server	
		• E-mail server	• E-mail server	
		• FTP-server	• FTP-server	
0		H TP-server	H TP-server	SOHO1: 20
9.				SOHO1: 30 SOHO2: 20
			80	SOHO2: 20 SOHO3: 20
			ου	501103. 20
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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	3 (12)	1 (8)	
3.	:		800 (-)	SOHO1: 5 SOHO2: 5 SOHO3: 4
4.		6	8	
5.	÷	- 2200 - 1900 ISDN Phone -	-800 Te -100 ISDN Phone -	SOHO1: -5, -5 SOHO2: -5, -5 SOHO3: -4, -4
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		90	SOHO1: 60 SOHO2: 50 SOHO3: 50

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1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.	()	2 (16)	1 (10)	
3.	:	3500	910 (–)	SOHO1: 2 SOHO2: 2 SOHO3: 3
4.		5	7	
5.	:	- 3500 -2500 ISDN Phone -	- 910 Te -63 ISDN Phone -	SOHO1: -2, 1 SOHO2: -2, 1
		-120	_	SOHO3: -3,1, -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		60	SOHO1: 40 SOHO2: 40 SOHO3: 50
	/ .			

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	I	<u> </u>	<u> </u>	
1.	,	,	, -	SOHO1: , SOHO2: , SOHO3: ,
2.	()	3 (25)	1 (30)	
3.	:	- 6720 (– 9000)	3750 (-)	SOHO1: 3 SOHO2: 3 SOHO3: 2
4.		7	5	
5.	:	- 6720 -3360 ISDN Phone - 3360 - 210	- 3750 Te - 3750 ISDN Phone -	SOHO1: -3,3, 3 SOHO2: -3,3, 3 SOHO3: -,2, 2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		100	SOHO1: 60 SOHO2: 20 SOHO3: 20

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1.	,	,	,	SOHO1: ,
				SOHO2: ,
				SOHO3: ,
2.	()	5 (9)	3 (3)	
3.	:	- 4455 (– 5000)	660 (-)	SOHO1: 4 SOHO2: 4 SOHO3: 4
4.		,		
		11	5	
5.	:	- 4455 - ISDN Phone - 4455	- 660 Te - ISDN Phone - 660	SOHO1: -4, ISDN Phone -2 SOHO2: -4, ISDN Phone -2 SOHO3: -4, ISDN Phone -2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	SOHO1: 25 SOHO2: 25
	/ .		80	SOHO3: 25

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	4 (7)	1 (8)	COLIO1- 2
3.	:	5320 (– 6000)	- 1100 (- 2000)	SOHO1: 2 SOHO2: 2 SOHO3: 2
4.		4	5	
5.	:	- 5320 - ISDN Phone - 4320	- 1100 Te - ISDN Phone - 1050	SOHO1: -2, ISDN Phone -1 SOHO2: -2, ISDN Phone -1 SOHO3: -2, ISDN Phone -1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		100	SOHO1: 40 SOHO2: 30 SOHO3: 30

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1.				SOHO1: ,
1.	,	,	,	SOHO1: ,
				,
				SOHO3: ,
2.		2 (12)	1 (10)	
	()	2 (12)	1 (10)	gover 4
3.				SOHO1: 4 SOHO2: 3
	;	5945	1580	SOHO2: 3 SOHO3: 3
		(-)	(-)	501103. 3
4.		7	,	
		7	8	
5.		- 5945	- 1580	SOHO1: -4, ISDN
		_	Te –	Phone –1
	:	ISDN Phone –	ISDN Phone –	SOHO2: –3, ISDN
		5940	1575	Phone –2 SOHO3: –3, ISDN
				SOHO3: –3, ISDN Phone –1
6.		CAM-CAD	• CAM-CAD	• CAM-CAD
		• LAN peer-to	 LAN peer-to 	 LAN peer-to peer trafic
	():	peer trafic	peer trafic	 small office peer-to-
		• small office	• small office	peer
		peer-to-peer	peer-to-peer	• database
		 database 	 database 	• voice over IP peer-to-
		• voice over IP	 voice over IP 	peer
		peer-to-peer	peer-to-peer	
7.		SQL Server	• SQL Server	
	:	• FTP Server	• FTP Server	
		• Small office database	 Small office database 	
		gatabase server	gatabase server	
8.		• File server	• File server	
		• E-mail server	E-mail server	
		• FTP-server	• FTP-server	
		H TP-server	• H TP-server	
9.				SOHO1: 30
				SOHO2: 26
			70	SOHO3: 25
	/			
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1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	3 (9)	4 (8)	
3.	:	1712 (– 2000)	1940 (-)	SOHO1: 5 SOHO2: 5 SOHO3:
4.		10	7	
5.	:	- 1712 - 1512 ISDN Phone -	-1940 Te -1000 ISDN Phone -	SOHO1: -5, -5 SOHO2: -5, -5 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-
7.	:	 peer-to-peer SQL Server FTP Server Small office database server 	 peer-to-peer SQL Server FTP Server Small office database server 	peer
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		90	SOHO1: 35 SOHO2: 25 SOHO3:

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1.	,	,	,	SOHO1: ,
				SOHO2: , SOHO3:
2.	()	2 (30)	4 (9)	
3.	:	8350 (– 9000)	1990 (-)	SOHO1: 3 SOHO2: 2 SOHO3:
4.		12	11	
5.	:	- 8350 - ISDN Phone - 5350	- 1990 Te - ISDN Phone - 1990	SOHO1: -3, ISDN Phone -1 SOHO2: -2,1,1 SOHO3: -
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 30 SOHO2: 20 SOHO3:

1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	4 (5)	2 (3)	
3.	:	4375 (-)	- 480 (-)	SOHO1: 7 SOHO2: 5 SOHO3: 4
4.		6	5	
5.	:	- 4375 - 150 ISDN Phone -	- 480 Te - 200 ISDN Phone - 80	SOHO1: - 7,2 SOHO2: - 5,1 SOHO3: -4,1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	 File server E-mail server FTP-server H TP-server 	SOHO1: 40 SOHO2: 30 SOHO3: 25
	/ .			

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1. 2. 3.	, ()	2 (30)	3 (4)	SOHO1: , SOHO2 , SOHO3: , SOHO1: 3 SOHO2: 3
4		5320 (– 6000)	768	SOHO3: 3
4.		11	8	
5.	:	-5320 - 4320 ISDN Phone -	- 768 Te - 768 ISDN Phone -	SOHO1: -3 SOHO2: -3 SOHO3: -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7. 8.	:	 SQL Server FTP Server Small office database server File server E-mail server 	 SQL Server FTP Server Small office database server File server E-mail server 	
9.		• FTP-server • H TP-server	FTP-serverH TP-server	SOHO1: 20
	/ .		95	SOHO2: 15 SOHO3: 15

1.	,	,	,	SOHO1: ,
				SOHO2: , SOHO3: ,
2.	()	4 (5)	1 (9)	
3.	:	3070 (– 3000)	1766 (-)	SOHO1: 1 SOHO2: 2 SOHO3: 2
4.		6	4	
5.	:	- 3070 - 900 ISDN Phone -	- 1766 Te -54 ISDN Phone -	SOHO1: -1,1 SOHO2: -2,1 SOHO3: -2,1
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	SQL ServerFTP ServerSmall office database server	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			90	SOHO1: 30 SOHO2: 30 SOHO3: 25
	/ .			

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	T	T	T	T
1.	,	,	,	SOHO1: ,
				SOHO2:
				SOHO3:
2.		5 (4)	2 (3)	
3.	:	- 1280 (- 1500)	- 80 (- 100)	SOHO1: 2 SOHO2: 3 SOHO3:
4.		10	3	
5.	:	- 1280 - 120 ISDN Phone -	- 80 Te - 20 ISDN Phone -	SOHO1: -2, T1, 1 SOHO2: -3, ISDN -3 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 peer-to-peer SQL Server FTP Server Small office database server 	 peer-to-peer SQL Server FTP Server Small office database server 	peer
8.		 File server E-mail server FTP-server H TP-server 	 File server E-mail server FTP-server H TP-server 	
9.			70	SOHO1: 20 SOHO2: 40 SOHO3:
	/ .		70	

			<u></u>	<u>, </u>
1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	2 (18)	1 (15)	
3.	:	5950 (– 6000)	840 (– 1000)	SOHO1: 3 SOHO2: 3 SOHO3: 3
4.		5	7	
5.	:	-5950 - 4950 ISDN Phone -	- 840 Te -840 ISDN Phone -	SOHO1: -3 SOHO2: -3 SOHO3: -3
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		90	SOHO1: 45 SOHO2: 40 SOHO3: 35

	T	T	T	1
1.				SOHO1: ,
1.	,	,	,	SOHO2:
				SOHO3: ,
2.	()	2 (10)	2 (6)	
3.	,			SOHO1: 4
	:	1000	700	SOHO2: 5 SOHO3: 3
		-	-	
4.		1500)	1000)	
		10	6	
5.		-1000 - 950	- 700 Te - 700	SOHO1: -4 SOHO2: -5
	:	ISDN Phone –	ISDN Phone –	SOHO2: –5 SOHO3: –3
		_	_	
6.		• CAM-CAD	• CAM-CAD	• CAM-CAD
	():	• LAN peer-to	• LAN peer-to	• LAN peer-to peer trafic
):	peer traficsmall office	peer traficsmall office	• small office peer-to- peer
		peer-to-peer	peer-to-peer	• database
		• database	• database	• voice over IP peer-to-
		• voice over IP peer-to-peer	• voice over IP peer-to-peer	peer
7.		SQL Server	SQL Server	
	:	• FTP Server	• FTP Server	
		• Small office database	Small office database	
		server	server	
8.		• File server	• File server	
		E-mail serverFTP-server	E-mail serverFTP-server	
		H TP-server	H TP-server	
9.				SOHO1: 35
			50	SOHO2: 30 SOHO3: 25
			50	501103. 23
	/ .			

	T			
1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	2 (9)	3 (6)	
3.	:	2000 (– 3000)	1000 (-)	SOHO1: 7 SOHO2: 2 SOHO3: 4
4.		15	10	
5.	·	-2000 - 30 ISDN Phone -10	- 1000 Te -450 ISDN Phone -50	SOHO1: - 7,5 SOHO2: - 2,1 SOHO3: - 4,3
		_9	_	
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		30	SOHO1: 30 SOHO2: 30 SOHO3: 60

1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	5 (9)	1 (8)	,
3.	:	3000 (– 4000)	800 (-)	SOHO1: 5 SOHO2: 5 SOHO3: 5
4.		13	11	
5.	:	-3000 - 3000 ISDN Phone -10	- 800 Te -250 ISDN Phone -50	SOHO1: -4,5 SOHO2: -4,5 SOHO3: -5,5
6.		_9 • CAM-CAD	- CAM-CAD	• CAM-CAD
	():	 LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	SQL ServerFTP ServerSmall office database server	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		70	SOHO1: 20 SOHO2: 30 SOHO3: 40

				T.
1.	,	,	,	SOHO1: ,
_				SOHO2: SOHO3:
2.	()	4 (4)	1 (4)	
3.	:	5200 (– 6000)	- 800 (- 1200)	SOHO1: 3 SOHO2: 2 SOHO3: 2
4.		,	,	
		12	10	
5.	:	-5200 - 3000 ISDN Phone - 200	- 800 Te - 800 ISDN Phone	SOHO1: -3 SOHO2: -2 SOHO3: -2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 20 SOHO2: 25 SOHO3: 25
	/ .			

	T	Г	Г	Т
1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3: ,
2.	()	4 (15)	4 (6)	
3.	;	5000	900	SOHO1: 7 SOHO2: 2 SOHO3: 2
4.		6000)	8	
5.	:	-5000 - 3000 ISDN Phone -	- 900 Te - 800 ISDN Phone -	SOHO1: - 7,4 SOHO2: - 2,1 SOHO3: - 2,2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.			60	SOHO1: 30 SOHO2: 20 SOHO3: 20
	/ .			

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3: ,
2.	()	3(10)	2(7)	
3.	:	3500 (– 4000)	- 700 (– 900)	SOHO1: 6 SOHO2: 2 SOHO3: 2
4.		10 7		
5.	:	-3500 - 3000 ISDN Phone -	- 800 Te - 800 ISDN Phone -	SOHO1: - 6,4 SOHO2: - 2,1 SOHO3: - 2,2
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 40 SOHO2: 20
	/ .		100	SOHO3: 20

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1.	,	,	,	SOHO1: , SOHO2: , SOHO3:
2.		4 (7)	3 (7)	
3.	:		1000 (-)	SOHO1: 6 SOHO2: 4 SOHO3:
4.		7	5	
5.	:	-2560 -108 ISDN Phone - 108	- 1000 Te - ISDN Phone - 60	SOHO1: -6, ISDN Phone -1 SOHO2: -4, ISDN Phone -1 SOHO3: -
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	;	SQL ServerFTP ServerSmall office database server	 SQL Server FTP Server Small office database server 	
9.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	SOHO1: 36
	/ .		75	SOHO2: 30 SOHO3:

1.	,	,	,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	3 (15)	3 (3)	
3.	:	3000	930 (–)	SOHO1: 7 SOHO2: 5 SOHO3:
4.		7	4	
5.	:	-3000 - 150 ISDN Phone -	- 580 Te - 200 ISDN Phone - 80	SOHO1: -7,6 SOHO2: -5,1 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	·	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	GOVO1 40
9.	/ .		120	SOHO1: 40 SOHO2: 30 SOHO3:

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1.	,	,	- ,	SOHO1: , SOHO2: ,
				SOHO3:
2.	()	1 (25)	2 (15)	
3.	:	4200 (-)	- 1560 (– 1600)	SOHO1: 7 SOHO2: 6 SOHO3:
4.		10	4	
5.	:	-4200 - 1150 ISDN Phone – 250	- 1560 Te - 600 ISDN Phone - 100	SOHO1: -7,2 SOHO2: -6,1 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7.	:	 SQL Server FTP Server Small office database server 	 SQL Server FTP Server Small office database server 	
8.		File serverE-mail serverFTP-serverH TP-server	File serverE-mail serverFTP-serverH TP-server	
9.	/ .		50	SOHO1: 20 SOHO2: 40 SOHO3:

· ,

1.	,	,		SOHO1: ,
				SOHO2: ,
				SOHO3:
2.	()	3 (10)	2 (13)	
3.	·	3000	2000 (–	SOHO1: 4 SOHO2: 7 SOHO3:
4.		3200)	2500)	
7.		8	7	
5.	·	-3000 - 450 : ISDN Phone –		SOHO1: -4,2 SOHO2: -7,6 SOHO3:
6.	():	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer 	 CAM-CAD LAN peer-to peer trafic small office peer-to-peer database voice over IP peer-to-peer
7. 8.	:	 SQL Server FTP Server Small office database server File server 	 SQL Server FTP Server Small office database server File server 	
		E-mail serverFTP-serverH TP-server	E-mail serverFTP-serverH TP-server	
9.	/ .		120	SOHO1: 50 SOHO2: 6 SOHO3:

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