



Projektovanie sietí 2

Branislav Juriš

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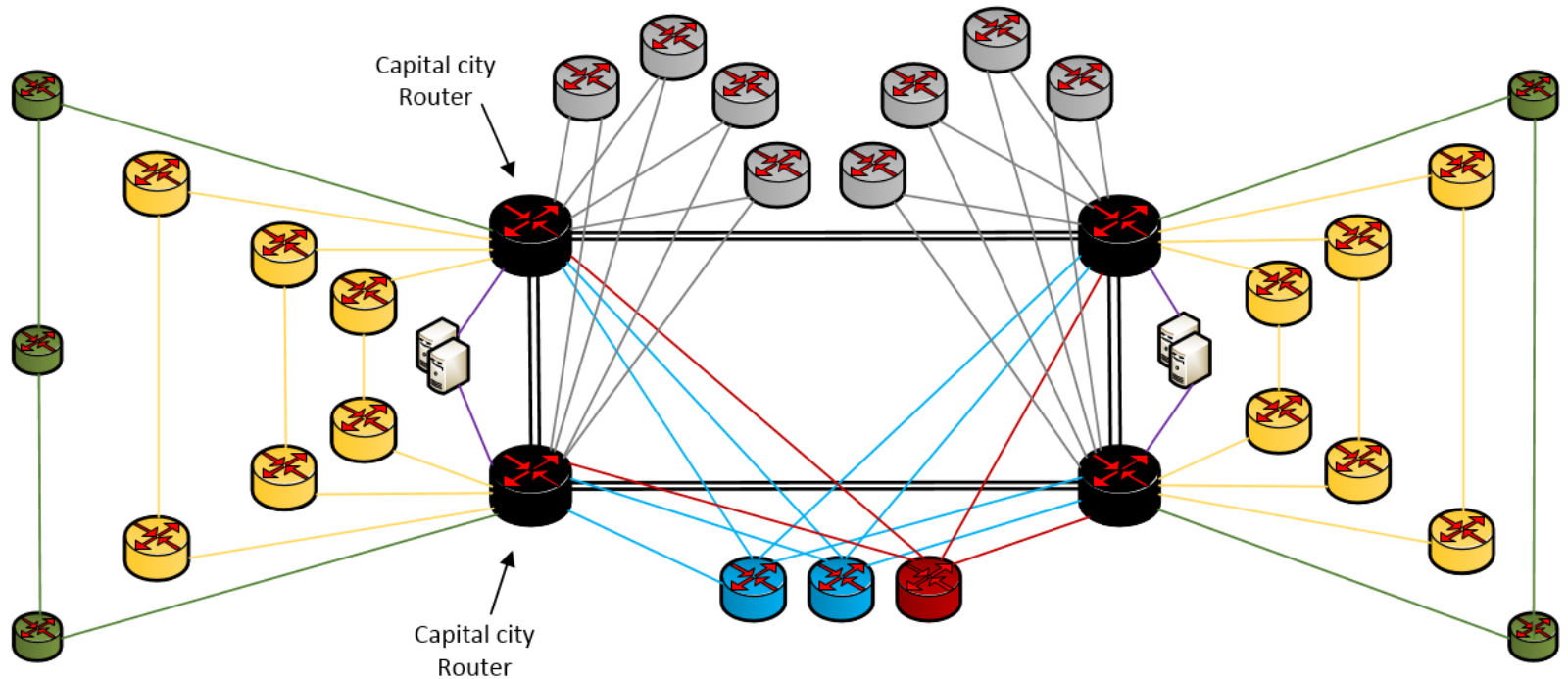
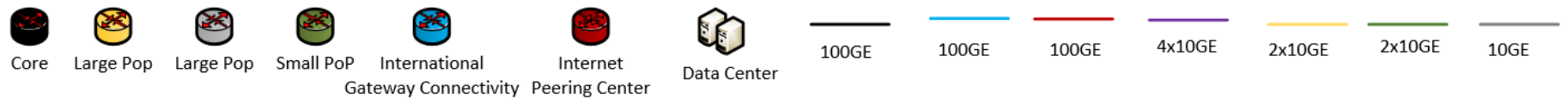
Samuel Kurnas

Nové riešenie

- Zníženie počtu ring smerovačov
- Zachovanie redundantných spojov
- Huawei platforma

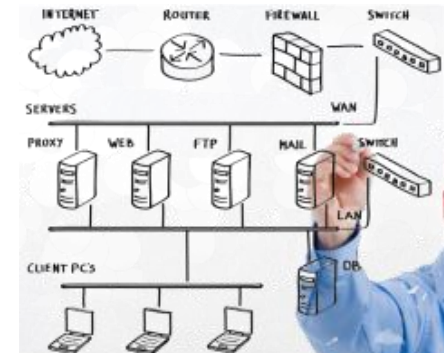


Naše riešenie



Výhody nášho riešenia

- zvýšenie spoľahlivosti
- zrýchlenie
- zjednodušenie
- ušetrenie výdavkov za výkopové práce
- zníženie nákladov na školenia
- kompatibilita



Chrbtica

Chassis - NetEngine5000E-X16A 480G

Vlastnosti	Požiadavka	Nové zariadenie
Minimálna agregovaná priepustnosť na zariadenie	16 Tbps	25 Tbps
Minimálna prenosová kapacita na rozhranie (full duplex)	400 Gbps	819 Gbps
Požiadavky na porty	8x 100GE 16x 10GE 40x GE (optical)	8x 100GE 20x 10GE 48x GE (optical)
Redundantný procesor	Yes	Yes
Redundantný switching fabric	Yes	Yes
Redundantné napájanie	Yes	Yes



Veľký POP

CHASSIS- NE40E-X16A (480G)

Vlastnosti	Požiadavka	Nové zariadenie
Minimálna agregovaná priepustnosť na zariadenie	8 Tbps	12.58 Tbps
Minimálna prenosová kapacita na rozhranie (full duplex)	200 Gbps	480 Gbps
Požiadavky na porty	24x 10GE 80x GE (optical) 20x GE (RJ-45)	48x 10GE 80x GE (optical) 40x GE (RJ-45)
Redundantný procesor	Yes	Yes
Redundantný switching fabric	Yes	Yes
Redundantné napájanie	Yes	Yes



Malý POP

CHASSIS - NE40E-X8A (480G)

Vlastnosti	Požiadavka	Nové zariadenie
Minimálna agregovaná priepustnosť na zariadenie	1 Tbps	7.08 Tbps
Minimálna prenosová kapacita na rozhranie (full duplex)	100 Gbps	480 Gbps
Požiadavky na porty	16x 10GE 40x GE (optical) 20x GE (RJ-45)	24x 10GE 40x GE (optical) 40x GE (RJ-45)
Redundantný procesor	Yes	Yes
Redundantný switching fabric	Yes	Yes
Redundantné napájanie	Yes	Yes



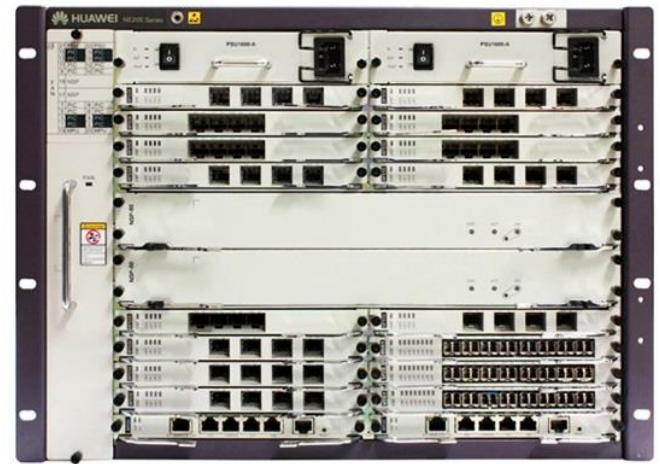
Veľký smerovač CHASSIS - NE40E-X3A (200G)

Vlastnosti	Požiadavka	Nové zariadenie
Minimálna prenosová kapacita na rozhranie (full duplex)	80 Gbps	200 Gbps
Požiadavky na porty	2 x 10GE 24 x 1GE (optical) 8 x GE/FE RJ-45 4 x STM1 (optical) 8 x E1	40x GE (optical) 40x GE (RJ-45) 4 x STM1 (optical)
Redundantný procesor	Yes	Yes
Redundantný switching fabric	Yes	Yes
Redundantné napájanie	Yes	Yes



Malý smerovač CHASSIS - NE20E-S16 (100G)

Vlastnosti	Požiadavka	Nové zariadenie
Minimálna prenosová kapacita na rozhranie (full duplex)	40 Gbps	100 Gbps
Požiadavky na porty	16 x 1GE (optical) 8 x GE/FE RJ-45 8 x E1 dobrovoľne	20x 1GE (optical) 8x GE (RJ-45)
Redundantný procesor	Yes	Yes
Redundantný switching fabric	Yes	Yes
Redundantné napájanie	Yes	Yes



IGW a SIX

CHASSIS - NE40E-X8A (480G)

Vlastnosti	Požiadavka	Nové zariadenie
Minimálna agregovaná priepustnosť na zariadenie	1 Tbps	7.08 Tbps
Minimálna prenosová kapacita na rozhranie (full duplex)	100 Gbps	480 Gbps
Požiadavky na porty	4x 100GE	4x 100GE
Redundantný procesor	Yes	Yes
Redundantný switching fabric	Yes	Yes
Redundantné napájanie	Yes	Yes



Ceny zariadení

Typ	Počet	Cena 1 Ks v r. 2017	Počet	Cena 1 Ks v r. 2018	Počet	Cena 1 Ks v r. 2019
Core	4	\$1 113 300,00				
PE Large	20	\$738 600,00				
PE Small	5	\$502 800,00				
IGW	2	\$489 900,00				
Peering	1	\$489 900,00				
Pre-aggregation Large	40	\$243 580,00	30	\$243 580,00	20	\$243 580,00
Pre-aggregation Small	150	\$33 010,00	100	\$33 010,00	70	\$33 010,00
	sum	\$20 846 980,00		\$5 834 620,00		\$3 950 265,00
						\$37 039 020

Ceny služieb 2017

Installation, commissioning and Integration

Services	Unit List Price	Discount	Quantity	Total price
Installation & Comm Production network	\$216 400,00	45%	1	\$119 020,00
Installation & Comm Lab	\$0,00	45%	1	\$0,00
Site Surveys	\$12 900,00	45%	1	\$7 095,00
Integration (Configuration, migration, functionality verification) - Production network	\$330 600,00	45%	1	\$181 830,00
Logistics	\$14 700,00	45%	1	\$8 085,00
Low Level Design	\$10 000,00	45%	1	\$5 500,00
Sum				\$321 530

Maintenance services	Description	Unit List Price	Discount	Quantity	Total price
Integrator's Annual fees	yearly price	\$628 500,00	45%	1	\$345 675,00
3rd party support (TAC support and faulty HW replacement)	yearly price	\$639 080,00	45%	1	\$351 494,00
Sum					\$697 169

Ceny služieb 2018

Installation, commissioning and Integration Services				
Services	Unit List Price	Discount	Quantity	Total price
Installation & Comm Production network	\$107 000,00	45%	1	\$58 850,00
Installation & Comm Lab	\$0,00	45%	1	\$0,00
Site Surveys	\$6 500,00	45%	1	\$3 575,00
Integration (Configuration, migration, functionality verification) - Production network	\$188 000,00	45%	1	\$103 400,00
Logistics	\$6 500,00	45%	1	\$3 575,00
Low Level Design	\$0,00	45%	1	\$0,00
Sum				\$169 400

Maintenance services	Unit List Price	Discount	Quantity	Total price
Integrator's Annual fees	\$908 500,00	44%	1	\$508 760,00
3rd party support (TAC support and faulty HW replacement)	\$923 860,00	44%	1	\$517 361,60
Sum				\$1 026 122

Ceny služieb 2019

Installation, commissioning and Integration				
Services	Unit List Price	Discount	Quantity	Total price
Installation & Comm Production network	\$74 000,00	45%	1	\$40 700,00
Installation & Comm Lab	\$0,00	45%	1	\$0,00
Site Surveys	\$4 500,00	45%	1	\$2 475,00
Integration (Configuration, migration, functionality verification) - Production network	\$130 000,00	45%	1	\$71 500,00
Logistics	\$4 500,00	45%	1	\$2 475,00
Low Level Design	\$0,00	45%	1	\$0,00
Sum				\$117 150

Maintenance services	Unit List Price	Discount	Quantity	Total price
Integrator's Annual fees	\$1 101 000,00	44%	1	\$616 560,00
3rd party support (TAC support and faulty HW replacement)	\$1 119 880,00	44%	1	\$627 132,80
Sum				\$1 243 693

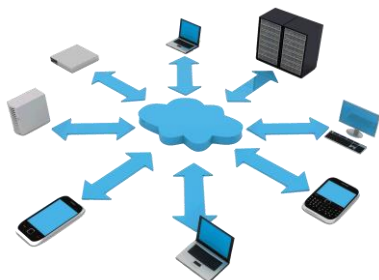
Celková cena 2017

Item	Total price
HW	\$24 494 580
LAB	\$0
Spare	\$2 310 495
Power Consumption	\$120 016
Technical support & Maintenance	\$697 169
Trainings	\$10 630
Installation, commissioning and Integration	\$351 492
Sum	\$27 984 382



Celková cena 2018

Item	Total price
HW	\$7 805 820
LAB	\$0
Spare	\$0
Power Consumption	\$155 819
Technical support & Maintenance	\$1 026 122
Trainings	\$33 825
Installation, commissioning and Integration	\$169 400
	\$9 190 985



Celková cena 2019

Item	Total price
HW	\$5 282 365
LAB	\$0
Spare	\$0
Power Consumption	\$180 504
Technical support & Maintenance	\$1 243 693
Trainings	\$46 888
Installation, commissioning and Integration	\$117 150
Sum	\$6 870 599



44 045 966,00 €



Celková platba

Ďakujeme za pozornosť !



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