SPESIFIKASI TEKNIS
PENGADAAN REVITALISASI INFRASTRUKTUR JARINGAN, PERANGKAT DAN DATA CENTER TAHAP-3
UNIVERSITAS NEGERI SURABAYA

NO	NAMA PRODUK/ PEKERJAAN	SPESIFIKASI TEKNIS
A	PERANGKAT JARINGAN	
1	**Switch Distribution Utama (CloudEngine S6730-H48Y6C-V2)(C13_Europe)**	S6730-H48Y6C-V2(48*25GE SFP28 ports, 6*100GE QSFP28 ports, without power module)
		600W AC Power Module(Back to Front, Power panel side exhaust)- X2
		N1-CloudCampus,Advanced,S67XX-H Series,Per Device
		N1-CloudCampus,Advanced,S67XX-H Series,SnS,Per Device,1 Year(Annual fee validity period : 1 year from " 90 days after PO signed ")
		Electrical Transceiver,SFP,GE,Electrical Interface Module(100m,RJ45 -X4
		Optical Transceiver,SFP+,10G,Multi-mode Module(850nm,0.3km,LC)-X4
		Optical Transceiver,SFP+,10G,Single-mode Module(1310nm,10km,LC) -X8
		25GBase-LR Optical Transceiver-SFP28-25G Single-mode(1310nm,10km,LC) - X4
		1U Boxlike equipment lengthening back mounting ear,IEC Expandable size(280-450mm)
		S6730-H48Y6C-V2(48*25GE SFP28 ports, 6*100GE QSFP28 ports, without power module)_Co-Care Basic S6730-H48Y6C_12Month(s)
2	**Switch Distribution Gedung 24-port (CloudEngine S5732-H24UM4Y2CZ-V2)(C13_Europe)**	S5732-H24UM4Y2CZ-V2 2.5G bundle (24*100M/1/2.5G Ethernet ports, optional RTU upgrade to 5/10G, 4*25G SFP28 ports, 2*100G QSFP28 ports, 1*expansion slot, PoE++, without power module)
		Interface card with 8 x 10GE SFP+ or 2 x 25GE SFP28 ports (only ports 1 and 2 support 25GE)
		S5732-H series, 2.5G to 5G Electronic RTU License, 12-port
		N1-CloudCampus,Advanced,S57XX-H Series,Per Device
		N1-CloudCampus,Advanced,S57XX-H Series,SnS,Per Device,1 Year(Annual fee validity period : 1 year from " 90 days after PO signed ")
		1000W AC&240V DC Power Module (Back to Front,Power panel side exhaust)- X2
		Optical Transceiver,SFP+,10G,Single-mode Module(1310nm,10km,LC) - X2
		1U Boxlike equipment lengthening back mounting ear,IEC Expandable size(280-450mm)
		S5732-H24UM4Y2CZ-V2 2.5G bundle (24*100M/1/2.5G Ethernet ports, optional RTU upgrade to 5/10G, 4*25G SFP28 ports, 2*100G QSFP28 ports, 1*expansion slot, PoE++, without power module)_Co-Care Basic S5732-H24UM2CC_12Month(s)
3	**Switch Distribution Gedung 48-port (CloudEngine S5732-H48UM4Y2CZ-V2)(C13_Europe)**	S5732-H48UM4Y2CZ-V2 2.5G bundle (48*100M/1/2.5G Ethernet ports, optional RTU upgrade to 5/10G, 4*25G SFP28 ports, 2*100G QSFP28 ports, 1*expansion slot, PoE++, without power module)
		Interface card with 8 x 10GE SFP+ or 2 x 25GE SFP28 ports (only ports 1 and 2 support 25GE)
		S5732-H series, 2.5G to 5G Electronic RTU License, 12-port
		N1-CloudCampus,Advanced,S57XX-H Series,Per Device
		N1-CloudCampus,Advanced,S57XX-H Series,SnS,Per Device,1 Year(Annual fee validity period : 1 year from " 90 days after PO signed ")
		1000W AC&240V DC Power Module (Back to Front,Power panel side exhaust)-x2
		Optical Transceiver,SFP+,10G,Single-mode Module(1310nm,10km,LC) - x2
		1U Boxlike equipment lengthening back mounting ear,IEC Expandable size(280-450mm)
		S5732-H48UM4Y2CZ-V2 2.5G bundle (48*100M/1/2.5G Ethernet ports, optional RTU upgrade to 5/10G, 4*25G SFP28 ports, 2*100G QSFP28 ports, 1*expansion slot, PoE++, without power module)_Co-Care Basic S5732-H48UM2CC_12Month(s)
4	**Switch Access Lantai 24-port (CloudEngine S5735-L24P4XE-A-V2)(C13_Europe)**	S5735-L24P4XE-A-V2 (24*10/100/1000BASE-T ports, 4*10GE SFP+ ports, 2*12GE stack ports, PoE+, AC power, Specially protected models)
		N1-CloudCampus,Advanced,S57XX-L Series,Per Device
		N1-CloudCampus,Advanced,S57XX-L Series,SnS,Per Device,1 Year(Annual fee validity period : 1 year from " 90 days after PO signed ")
		S5735-L24P4XE-A-V2 (24*10/100/1000BASE-T ports, 4*10GE SFP+ ports, 2*12GE stack ports, PoE+, AC power, Specially protected models)_Co-Care Basic S5735-L24P4X-A_12Month(s)
5	**Switch Access Lantai 48-port (CloudEngine S5735-L48P4XE-A-V2)(C13_Europe)**	S5735-L48P4XE-A-V2 (48*10/100/1000BASE-T ports, 4*10GE SFP+ ports, 2*12GE stack ports, PoE+, 1*AC power)
		N1-CloudCampus,Advanced,S57XX-L Series,Per Device
		N1-CloudCampus,Advanced,S57XX-L Series,SnS,Per Device,1 Year(Annual fee validity period : 1 year from " 90 days after PO signed ")
		S5735-L48P4XE-A-V2 (48*10/100/1000BASE-T ports, 4*10GE SFP+ ports, 2*12GE stack ports, PoE+, 1*AC power)_Co-Care Basic S5735-L48P4XE_12Month(s)
6	**AP Small Office/Classroom (AirEngine 5762-10)**	AirEngine5762-10(11ax indoor,2+2 dual bands,smart antenna)
		AP Small bracket
		N1-CloudCampus,Advanced,11ax AP,Per Device
		N1-CloudCampus,Advanced,11ax AP,SnS,Per Device,1Year(Annual fee validity period : 1 year from " PO signed plus 90 days ")
		AirEngine5762-10(11ax indoor,2+2 dual bands,smart antenna)_Co-Care Basic AirEngine5762_12Month(s)
7	**AP Classroom 2.5G /AirEngine 6761-21T**	AirEngine6761-21T(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)
		N1-CloudCampus,Advanced,11ax AP,Per Device

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		N1-CloudCampus,Advanced,11ax AP,SnS,Per Device,1Year(Annual fee validity period : 1 year from " PO signed plus 90 days ")
		AirEngine6761-21T(11ax indoor,2+2+4 tri bands,smart antenna,USB,BLE)_Co-Care Basic AirEngine6761-21_12Month(s)
8	**AP High Density - AirEngine 8760-X1-PRO**	AirEngine8760-X1-PRO(11ax indoor,Dedicated 3rd Radio,4+12 dual bands,smart antenna,USB,IoT Slot,BLE)
		N1-CloudCampus,Advanced,11ax AP,Per Device
		N1-CloudCampus,Advanced,11ax AP,SnS,Per Device,1Year(Annual fee validity period : 1 year from " PO signed plus 90 days ")
		AirEngine8760-X1-PRO(11ax indoor,Dedicated 3rd Radio,4+12 dual bands,smart antenna,USB,IoT Slot,BLE)_Co-Care Basic AirEngine8760_12Month(s)
9	**Switch Farm Server- CE6885-48YS8CQ**	CE6885-48YS8CQ switch (48*25GE SFP28, 8*100GE QSFP28, 2*AC Power Modules, 5*Fans, Port-side Intake)
		N1-CloudFabric Foundation SW License for CloudEngine 6800
		N1-CloudFabric Foundation SW License for CloudEngine 6800-SnS-Year(Annual fee validity period : 1 year from " PO signed plus 90 days ")
		25GBase-SR Optical Transceiver-SFP28-25G Multi-mode(850nm,0.1km,LC)- x48
		CE6885-48YS8CQ switch (48*25GE SFP28, 8*100GE QSFP28, 2*AC Power Modules, 5*Fans, Port-side Intake)_Co-Care Basic CE6885-48YS8_12Month(s)
10	**RTU Licence 10G**	S5732-H series, 2.5G to 10G Electronic RTU License, 12-port
11	**HUAWEI Supervision & Deployment Service Network**	Software Commissioning Support 10 Man-Days Service Package
12	**Renewal Palo Alto PA 5410**	PA-5410, Advanced WildFire subscription, 1 year (12 months) term, renewal
		PA-5410, Advanced URL Filtering subscription, 1 year (12 months) term, renewal.
		Advanced Threat Prevention subscription renewal, PA-5410
		Partner enabled premium support renewal, PA-5410
B	**DATA CENTER**	
1	**Smart Modular System**	**Cabinet and Aisle System ;**
		M-type rack, 600 mm (W) x 1200 mm (D) x 2000 mm (H), 42 U ; x8 racks
		Maintenable control skylight, for 600 mm wide cabinets and 1200 mm wide aisle containments, dedicated for M-type cabinets x2
		Power Distribution System ;
		Smart Busbar (New Main Way) ;NMW-General Input Unit-250A Breaker-Monitoring Type-Support for Surge Protection-Installed on the Right and Left x2
		PDB Smart Cooling Products ; Power Distribution Cabinet,PDU8000-0250ACV4-CBA917,380V,3PH,50Hz,250A
		FusionModule2000-Air Conditioning System ;
		NetCol5000-A050 with heating&humidifier ; Smart Cooling Product,Air Cooling,Indoor Unit,FusionCol5000-A050H4,2000H*600W*1200D,Horizontal Air Flow,Up&Down Pipe,Dual Power Supply,Heating&Humidifier,International packaging
		Monitoring System ;
		Access Control System-Skylight Magnetic Lock -12VDC-8kg
		Fingerprint/Password/Card access control system, applicable to double automatic sliding doors
		Ecc800-Pro -Controller- Support SMS ;
		Ecc800-Pro -Controller- Support SMS - Dual power supply
		Technical Support Service ;
		Co-Care standard-12 month(s) , untuk perangkat utama
2	**Smart Power Supply include Li Batery**	UPS5000-E-50kVA,Load 50kW,BackupTime 30min,Redundant Mode 1+0_Site1
		UPS5000-E ;
		UPS5000-E,200kVA,three phase four wire system,380V,standard configuration (with maintenance bypass switch),top/Bottom cabling,50kVA power module
		Main SmartLi Cabinet ;
		SmartLi 3.0-6C Lithium battery cabinet-full configuration (with monitor)-Lithium battery cabinet+DCDC module+monitor
		Cables of SmartLi-Lithium battery ;
		Twisted-Pair Cable,100ohm,Category 5e,FTP,0.52mm,24AWG,8Cores,4Pairs,PANTONE 430U,Use with Plug:1408009
		Technical Support Service ;
		Co-Care Standard UPS5000-E Integrated Cabinet _12Month(s)
3	**FusionCube 1000 (Hypervisor 8.0)**	Hyper-converged Node-DP2220(8*2.5inch Chassis, 2*C5418Y(2.0GHz/24 Core/45MB/185W), 2*GE, 2*10GE, 2*2000W)DP2220
		Memory Module,DDR RDIMM Memory,32GB x 16
		1.92TB SSD SAS Disk Unit x2
		Ethernet Adapter,25GE,Dual Port,SFP28(without Optical Transceiver) x2
		Optical Transceiver,SFP+,10G,Multi-mode Module(850nm,0.3km,LC) x2
		25GBase-SR Optical Transceiver-SFP28-25G,Multi-mode(850nm,0.1km,LC) x4
		Hyper-converged Node-DP2220(8*2.5inch Chassis, 2*C5418Y(2.0GHz/24 Core/45MB/185W), 2*GE, 2*10GE, 2*2000W)DP2220_Co-Care StandardFusionCube DP2220-C5xxx_36Month(s)

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		1.92TB SSD SAS Disk Unit_Co-Care Standard Fusioncube 1.6T-1.92T SSD_36Month(s) x2
4	**Ocean Stor Dorado 3000 V6**	OceanStor Dorado 3000 V6(2U,Dual Ctrl,NVME,AC\240V HVDC,128GB Cache,8*1Gb ETH,8*10Gb ETH(Including Multi-Mode SFP+),25*Palm,SPE62C0225)
		4 ports SmartIO I/O module(SFP28,32Gb FC) x2
		3.84TB SSD NVMe Palm Disk Unit(7") x10
		SAN Advanced License (Including DeviceManager,Thin,Migration,Snap,Replication,Clone,QoS,Erase,DME IQ,Virtualization,Metro,CDP)
		NAS Advanced License(Including DeviceManager,CIFS,NFS,NDMP,Thin,Snap,Replication,Clone,QoS,Erase,Metro,CDP,DME IQ,Audit,DNS)
		SmartDedupe & SmartCompression Software License General Edition
		NAS Advanced License(Including DeviceManager,CIFS,NFS,NDMP,Thin,Snap,Replication,Clone,QoS,Erase,Metro,CDP,DME IQ,Audit,DNS)_Hi-Care Application Software Upgrade Support Service OceanStor Dorado 3000 V6 NAS Advanced License_36Month(s)
		SAN Advanced License (Including DeviceManager,Thin,Migration,Snap,Replication,Clone,QoS,Erase,DME IQ,Virtualization,Metro,CDP)_Hi-Care Application Software Upgrade Support Service OceanStor Dorado 3000 V6 All-Software License Package_36Month
5	**DCS Virtualitation Suite**	DCS Virtualization Suite Advanced Edition License,per CPU
		DCS Virtualization Suite Advanced Edition,3 Years Subscription and Support,per CPU(Annual fee validity period : 3 years from" PO signed plus 90 days ")
6	**Pre-Work DC incl Civil , Electrity & Materials**	**Persiapan Ruangan Data Center ;**
		Meliputi pekerjaan pembongkaran dan perapihan ruangan termasuk dinding dan plafon, pekerjaan pintu dan jendela , furniture ruangan control .
		Raised Floor ;
		Raised Floor untuk Ruangan Server Module dan NOC / UPS Batery ;
		Panel Size : 600mm x 600mm x 35mm Height : 400 mmFFH
		Tile:110, Pedestal+head: 158, Stringer : 214 Baut : 475
		Tata Udara /Cooling System ;
		Pemasangan unit AC & equipmentnya berikut pemasangan untuk pemipaan refrigerant,drain AC & pengkabelannya termasuk additional freon
		Air Conditioning Kap. 18.000 BTUH tipe Single Split – x 9 unit
		Kelistrikan Arus Kuat ;
		Pengadaan dan pemasangan Panel listrik dan kabel feeder berikut dengan support dan material bantu diperlukan sesuai dgn spec. teknis dan gambar.
		Preventif Kebakaran (Fire Suppression System) ;
		Pengadaan dan Pemasangan Fire Suppression System NOVEC-1230/FK-5-1-12 , Fire Class : C – UL 2166 *Standard Design NFPA 2001, Design Concentration : 4.7%
		Perangkat Sensor dan Detektor Keselamatan ;
		Pengadaan dan Pemasangan Perangkat Sensor dan Detektor di Data Center , termasuk Detektor Asap , Sensor Suhu , Alarm Api dan Switch Otomatis kondisi darurat .
C	**SMART CLASS & SMART CAMPUS**	
1	**Smart Class - Fakultas**	Dahua Recording & Broadcasting Server
		HDD-ST8000VX009-8TB-256MB-5400RPM-3.5-inch-SATA
		8MP Recording & Broadcasting WizMind Network Camera x2
		X-spans 4MP+4MP 4x Wizmind Network PTZ Camera
		75 inch Smart interactive whiteboard
		Stand - DHI-PKC-MS0A
		Wireless Screen Sharing Cable
		Conference Speaker - Overseas – Education x 2
		Multi-functional Amplifier-European Standard
		Wireless Microphone Set-European Standard
		HDD-ST8000VX009-8TB-256MB-5400RPM-3.5-inch-SATA x3
		20-Port Cloud Managed Desktop Gigabit Switch with 16-Port PoE x1
		Display Screen 55 inch
		Mini PC
2	**Videotron /LED Display (2 sites)**	**Digital Sign Board – Gerbang Kampus Lidah Wetan**
		LED P5 – Outdoor Premium
		LED Screen Cabinet ; 3x4m (12m), Pixel Pitch (mm) P 4.80769 , Total Pixel : Lebar (832) / Tinggi (624) , Total Resolusi 519.168
		Android Player Box ;
		Maximum load capacity of 3.9 million pixels. 2x HDMI 1.3 inputs, 3x USB 2.0 Inputs. Output: 6x RJ45 Ethernet. Output: Width range: 800-4096 Pixels; Height range: 600-1920 Pixels. Supporting conference mode.
		Additional Spare Parts

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NO	NAMA PRODUK/ PEKERJAAN	SPESIFIKASI TEKNIS
3	**Surveilance CCTV - Lab. KWU Lidah & Ketintang**	4MP IR Bullet WizMind Network Camera x 11
		10-Port Unmanaged Switch with 8-Port ePoE x 4
		Dahua Face Recognition,Card Swiping,Password Face Recognition Access Controller x5
		4MP IR Vari-focal Vandal-proof Dome WizMind Network Camera x5
		Dahua 43-inch UHD Monitor x2
		20-Port Cloud Managed Desktop Gigabit Switch with 16-Port PoE
		64CH 2U 8HDDs WizMind Network Video Recorder
		36-Port L2+ Managed Gigabit Switch with 4-Port 10G SFP+
		Video channel expansion license, one video channel license for DSS Professional V8. Prerequisite: Video surveillance base package x45
		StudentAttendance Classroom license for DSS Professional v8, supports one classroom per channel to provide classroom information and devices related settings. One classroom can support more than one cameras x8
		HDD-ST8000VX009-8TB-256MB-5400RPM-3.5-inch-SATA x3
		HDD-ST10000NM017B-10TB-256MB-7200RPM-3.5-inch-SATA
		Dahua 24-inch FHD Monitor
D	**REVITALISASI FO DAN JARINGAN LAN**	
1	**Revitalsasi Jaringan Fiber Optik dan Materials**	**Kampus Lidah ;**
		Kabel FO 48 Core ADSS Single Mode –1650 Meter
		Kabel FO 24 Core ADSS Single Mode – 570 Meter
		Kabel FO 12 Core ADSS Single Mode – 1800 Meter
		Kabel FO 4 Core Single Mode – 2800 Meter
		Kabel FO 6 Core OM3 Multimode single Jacket Indoor – 190 Meter
		HPDE – 5420 M
		Pengerjaan,termasuk Galian Rojok (3442 Meter), Penarikan Kabel FO (7010 Meter)
		Kampus Ketintang ;
		Kabel FO 24 Core ADSS Single Mode – 420 Meter
		Kabel FO 12 Core ADSS Single Mode – 4800 Meter
		Kabel FO 6 Core OM3 Multimode single Jacket Indoor – 850 Meter
		HPDE – 3795 M
		Pengerjaan, termasuk Galian Rojok (3795 Meter), Penarikan Kabel FO (6070 Meter)
2	**Instalasi Jaringan LAN dan Materials**	**Kampus Lidah ;**
		Roll Kabel CAT 6A Comscope - 9 Roll
		Wallmount Rack 8U - 9 Unit
		Wallmount Rack 32U - 1 Unit
		Pipa Conduit 20mm (Include Klem, Sock, Flexible, Kabel Tis,Fiser) - 465 batang
		RJ45 CAT6A - 100 PCS
		Kabel Listrik NYM 3x2,5 - 350 Meter
		Jasa Pemasangan Pipa Conduit, Penarikan dan Terminasi Kabel UTP – 41 Set
		Kampus Ketintang ;
		Roll Kabel CAT 6A Comscope - 86 Roll
		Wallmount Rack 8U - 37 Unit
		Wallmount Rack 32U - 2 Unit
		Pipa Conduit 20mm (Include Klem, Sock, Flexible, Kabel Tis, Fiser) - 4.158 batang
		RJ45 CAT6A - 934 PCS
		Kabel Listrik NYM 3x2,5 - 1.030 Meter
		Pemasangan Pipa Conduit, Penarikan dan Terminasi Kabel UTP, Labeling AP- 514 Set
E	**INSTALASI & IMPLEMENTASI**	
1	**Instalasi , Konfigurasi , Testing , Comisioning - Perangkat Jaringan**	Instalasi , Konfigurasi , Testing dan Komisioning Perangkat Jaringan termasuk :
		Switch Distribution Utama – 2 Unit
		Switch Distribution Gedung – 25 Unit
		Switch Lantai – 18 Unit
		Switch Farm Server – 1 Unit
		AP's (Classrrom , High Density) – 514 Unit
2	**Instalasi , Testing , Comisioning - Module DC incl VM Migration**	Instalasi , Konfigurasi , Testing dan Komisioning Perangkat Datacenter termasuk:
		Instalasi & Testing Fusion Module 2000 dan UPS 5000
		Fusion Cube – high performance server – 3 Unit
		OceanStor Dorado 3000 – storage
		DCS Virtualitaion Suite
3	**Instalasi , Konfigurasi , Testing - Perangkat Smart Class / Campuss**	Instalasi , Testing dan Komisioning , termasuk ;
		Smart Class – 10 set di 10 Fakultas
		Survailance system – 14 CCTVs di gerbang Ketintang dan KWU Lidah
		LED / Digital Sign Board termasuk pembangunan penyangga – 2 set

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