



Quantum Security  
Solution

# 통합양자암호보안 시스템 카탈로그

*Integrated Quantum Cryptography Security System*



컴이넷(주)



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양자**CCTV**보안시스템  
(Quantum CCTV Security System : Q.C.S.S)

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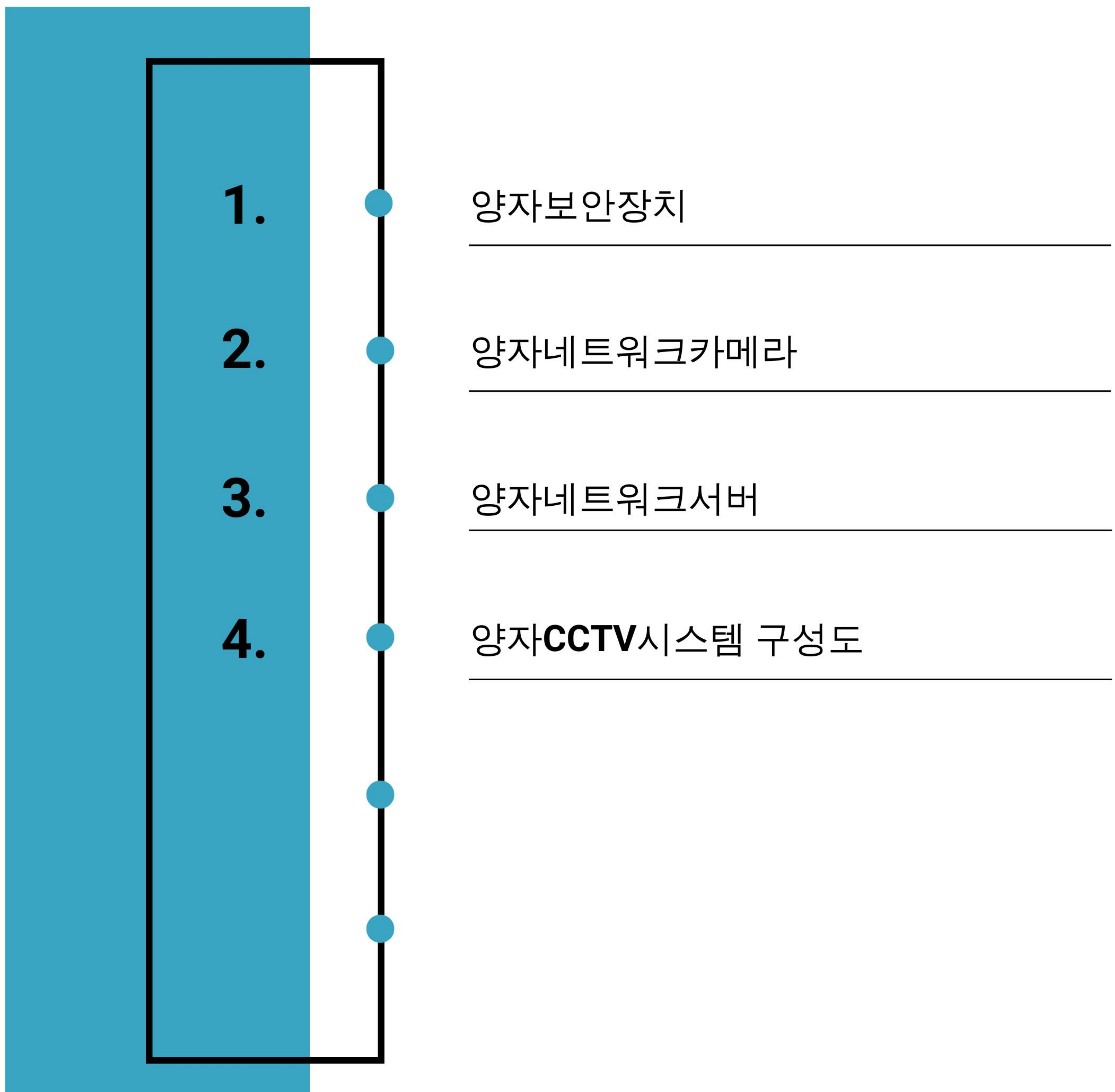
양자내성암호 보안시스템  
(Quantum VPN Security System : Q.V.S.S)

- 1. PQC VPN 서버
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# Chapter I

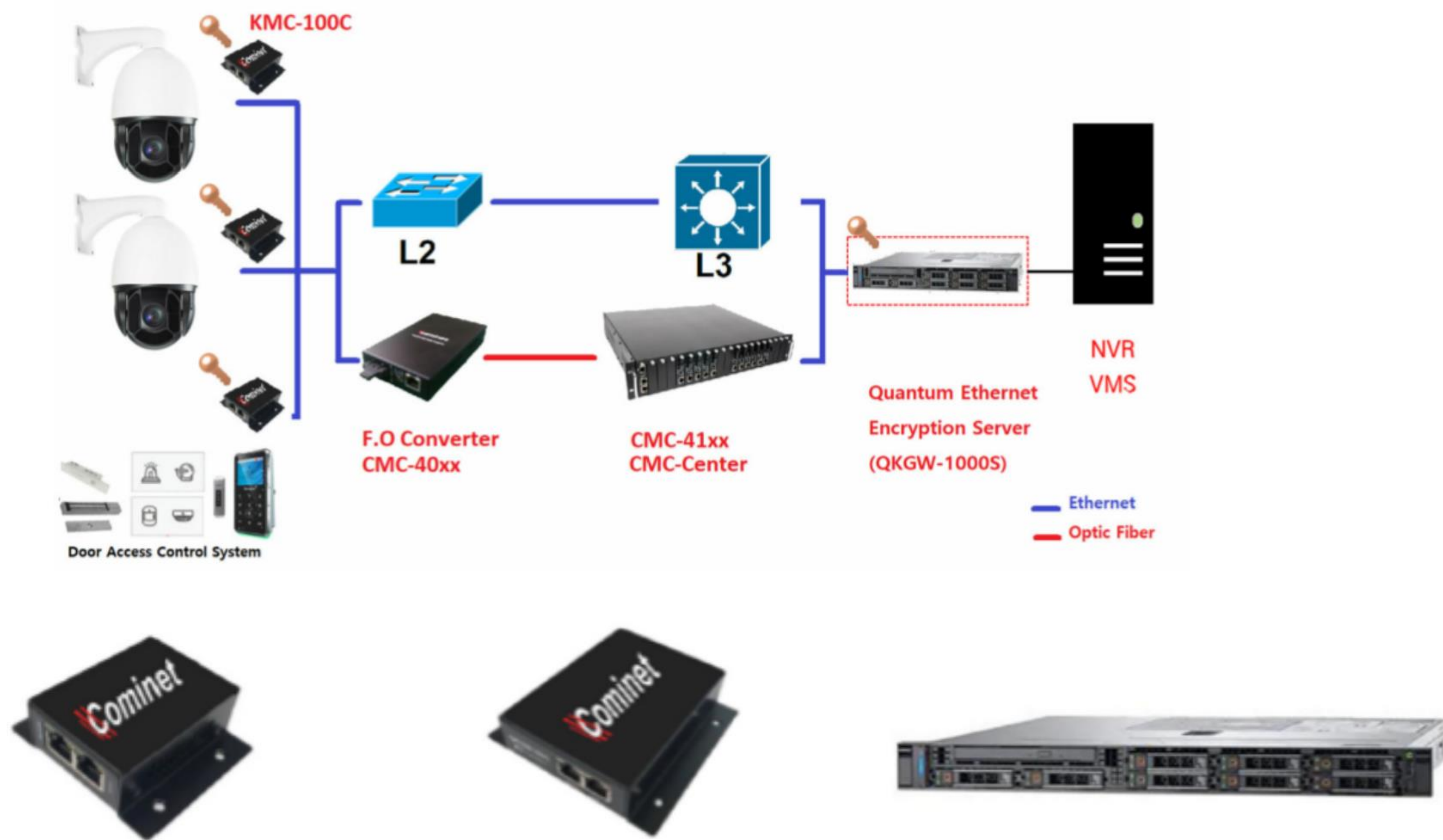
## 양자CCTV보안시스템 (Quantum CCTV Security System : Q.C.S.S)





# 1. 양자보안장치

■ 양자암호 네트워크 보안시스템 구성도



- Ethernet Quantum Encryption 단말장치
- Security SoC 하드웨어암호칩
- 구간양자암호화솔루션
- 이더넷패킷양자암호화솔루션
- 국/내외 표준암호알고리즘적용(Logic)
- KCMVP 국내최고보안등급획득(LV.2)

- 영상 H.265 전송채널(2M 화소)
- 양자암호키자체생성및 보관
- 양자 표준암호통신
- 방화벽기능(암호 호스트관리)
- IEEE 802.3

	KMC-100C	QKGW-100C	QKGW-1000S
Main Crypto chip Hardware	KEV7		DELL PowerEdge R340 KUC100C (Quantum Crypto USB)
Crypto Engine	ARIA-128/192/256 key, AES-128/192/256 key, ECC-256 key (ECDH, ECDSA), SHA2-256 (HMAC)		
Key Generation	TRNG PUF QRNG (Quantum chip)		
Encryption Target Protocol	TCP UDP ICMP		
Network	IEEE802.3, 10/100 Base-T 2-RJ45 (Local port, Remote port)	IEEE802.3, 1000 Base-T 2-RJ45 (Local port, Remote port)	
Network LED	Link Active		
OS	None (Firmware)	Linux	
Power Supply	DC 5V	DC 5V	AC220V 50/60 Hz
Power Consumption	210mA@5V	430mA@5V	350W
Operating Temp.	-40°C ~ 85°C		
Pair Model (Essential)	QKGW100C / QKGW1000S	KMC100C	KMC100C



## 2. 양자네트워크카메라



Model Name		CQB-2803SVRQ	CQD-2704SVRQ	CQD-272SRQ
Image Device		1/1.8”(2M) Progress CMOS Sensor	1/2.8”(2M) Progress CMOS Sensor	
Lens		3x Motorized Zoom Lens Mechanical IR Cut Filter	4x Motorized Zoom Lens Mechanical IR Cut Filter	4mm Fixed Lens
Focal length		f = 3.6 ~ 11mm	f = 2.8 ~ 12mm	f = 4.0mm
F-stop		F1.5	F1.4	F1.6
Minimum Illumination		0 Lux (with IR LED On)		
Shutter Speed		Automatic: Min. 1/30,000 sec ~Max.1/30 sec    Manual: Min. 1/30,000 sec ~ Max. 1/30 sec		
WDR/DNR		WDR On/ Off (Adjust) 2DNR, 3DNR, On/Off(Adjust)		
VIDEO	Video Codec	H.265 Main Profile, H.264, MJPEG		
	Resolutions (H.265/H.264/MJPEG)	1920x1080(Full-HD),    1280x960,    1280x720(HD),    640x480(VGA),    640x360, 320x240(QVGA)		
	Video Streaming	Simultaneously H.265 and MJPEC or H.264 and MJPEC, Up to 30fps@1920 x 1080p		
	Image Settings	Brightness, Contrast, Saturation, Sharpness,    White balance, Exposure Control, Rotation    of images, Text and image overlay, Privacy    masking(16 zones), SLDC, Defog		
AUDIO	Audio streaming	Two way(G.711)		
	Audio Codec	G.711		
	Audio input / Output	Line Input(1ea) / Output(1ea)		
System Integration	API	Onvif Profile S, Open API for software integration, including API, SDK		
	Intelligent Video	Video motion detection		
	Alarm Triggers	Intelligent video, external inputs, manual trig    gers, Network Fail, Reboot, Schedule		
	Alarm Events	File upload via FTP, e-mail, Notification via e-mail, External output activation		
IR LED		HI POWER LED, 850nm, 6pcs	850nm, 30pcs	
Crypto Engine	Crypto Algorithm (Hardware Chip)	<b>Chips : KEV7 Chip + QRNG Chip</b> AES/ARIA-128/192/256    ECC-256 (ECDH,ECDSA)    SHA256(HMAC-SHA256)		
	Key Generation	TRNG(Ture RNG), QRNG(Quantum RNG)		
IR Distance		30m	15~20m	
GENERAL	IP Rating	- IP66 (Weather proof)	-	
	Power	DC12 V/1.5A, PoE : 802.3af (Max 12W)		
	Operating Temperature	-22°F~-122°F(-30°C~+50°C) (w/ Heater), Humidity MAX. 90% RH(non-condensing)		
	Storage Conditions	Temperature: - 20°C ~ +50°C(-4°F~140°F),    Humidity MAX. 90% RH(non-condensing)		
	Conformity	KC Certification		
	Dimension	Φ85.7*297.9(L)mm	Φ130*101.3(H)mm	Φ130*101.3(H)mm
	Weight	1.3Kg	0.6Kg	0.6Kg



### 3. 양자네트워크서버

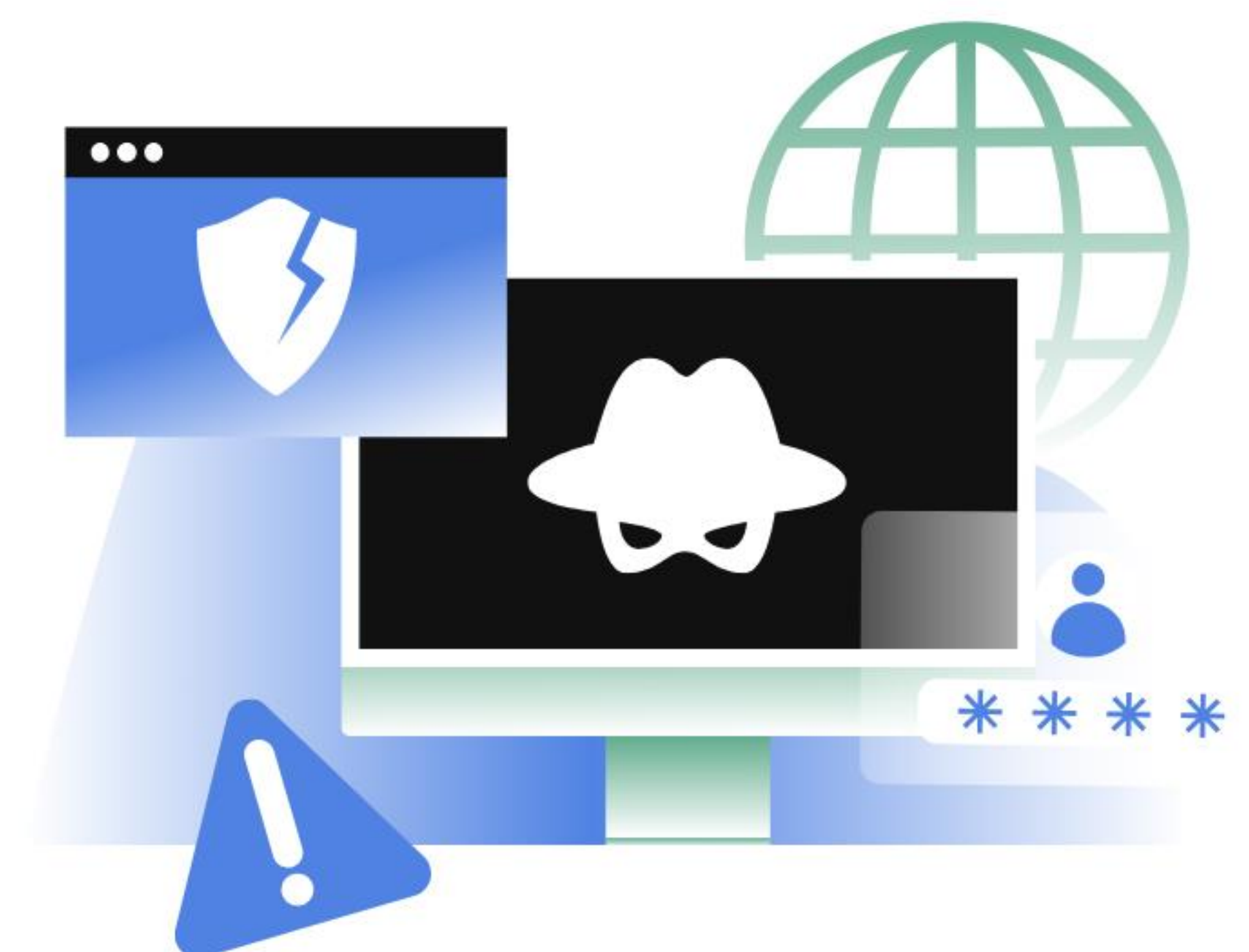
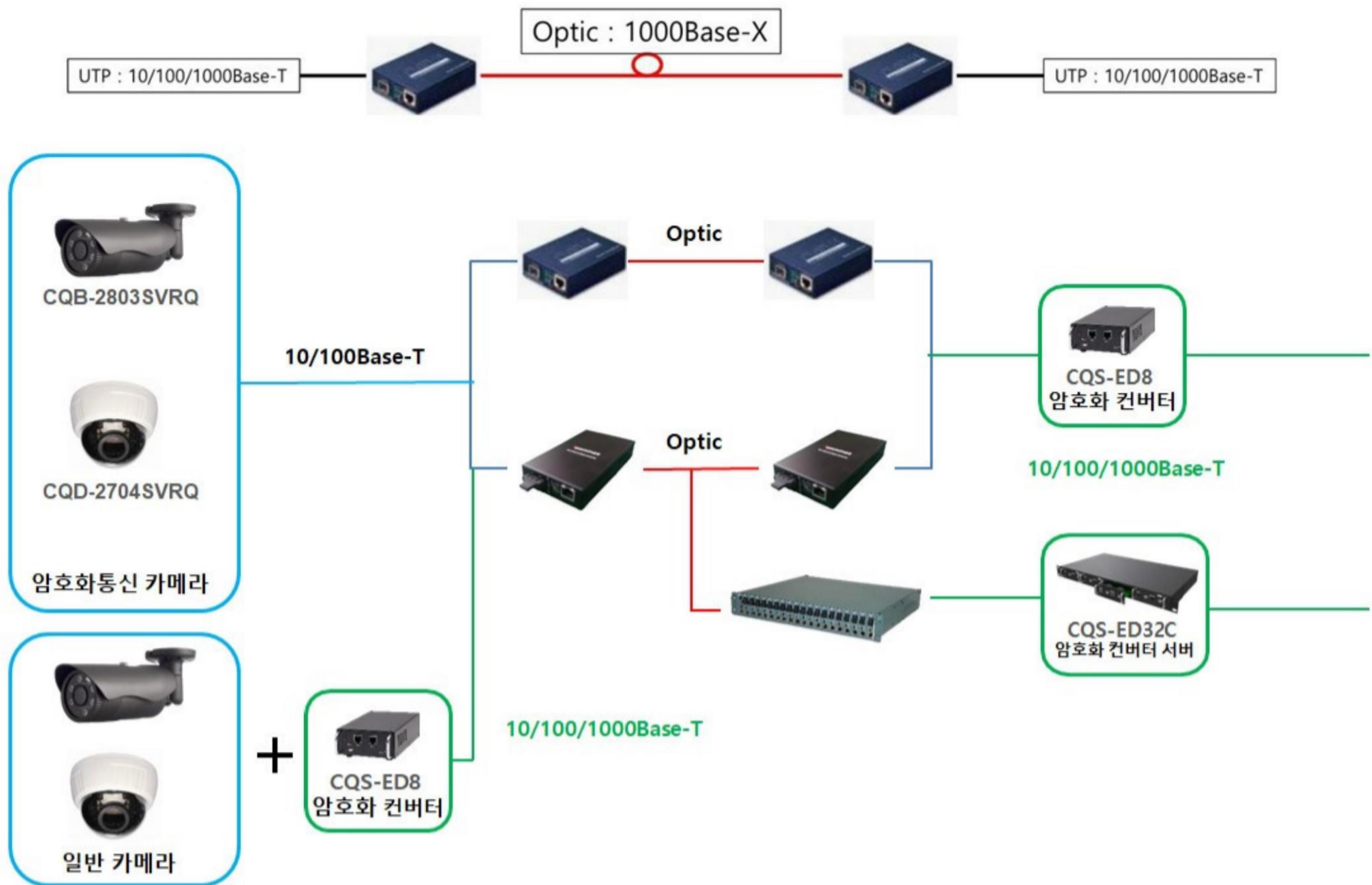


ITEM		DESCRIPTION	DESCRIPTION
Model Name		CQS-FL/F4L/F8L (Encryption Channel)	CQS-ED16C/ED24C/ED32C (Rack type, max 4Slot)
Main Chipset	Main CPU	Sitara™ ARM®Cortex®-A9 32-Bit RISC Processor,	
	Memory	32Bit DDR3 Memory ( 8Gb DDR3L SDRAM * 2EA ),	
	Crypto Module	KCMVP ( Built in Certificated Encryption module )	
	RNG	QRNG (Quantum Random Number Generator)	
Crypto Engine	Crypto Algorithm (Hardware logic based)	AES/ARIA-128/192/256 ECC-256 (ECDH,ECDSA) SHA256(HMAC-SHA256)	
	Key Generation	TRNG(Ture RNG), QRNG(Quantum RNG)	
Network	Security	Multiple user access by Management tool for Windows IP address filtering: Device Permission(Host, WhiteList)	
	Supported Protocols	IPv4, HTTP, HTTPS, TCP, RTSP, RTP, UDP, IGMP, RTCP, SMTP, FTP, ICMP, DHCP, ARP, DNS, DDNS, UPnP	
	Interface	10/100/1000 Base-T	
General	Enclosure	Black	
	LED Indicate	Yellow( Ethernet Active LED), Green(Ethernet Link LED)	
	Power	DC5 V/1A (Max 5W)	DC12 V/2A (Max 25W)
	Operating Temperature	14°F~122°F(-10°C~+50°C) (w/o Heater) Humidity MAX. 90% RH(non-condensing)	
	Storage Conditions	Temperature: - 20°C~ +50°C(-4°F~140°F), Humidity MAX. 90% RH(non-condensing)	
	Conformity	KC Certification	KC Certification
	Dimension	107mm(W) X 44mm(H) X 170mm(D)	440mm(W) X 44mm(H) X 300mm(D)
	Weight	0.8Kg	4.5Kg



## 4. 양자CCTV시스템 구성도

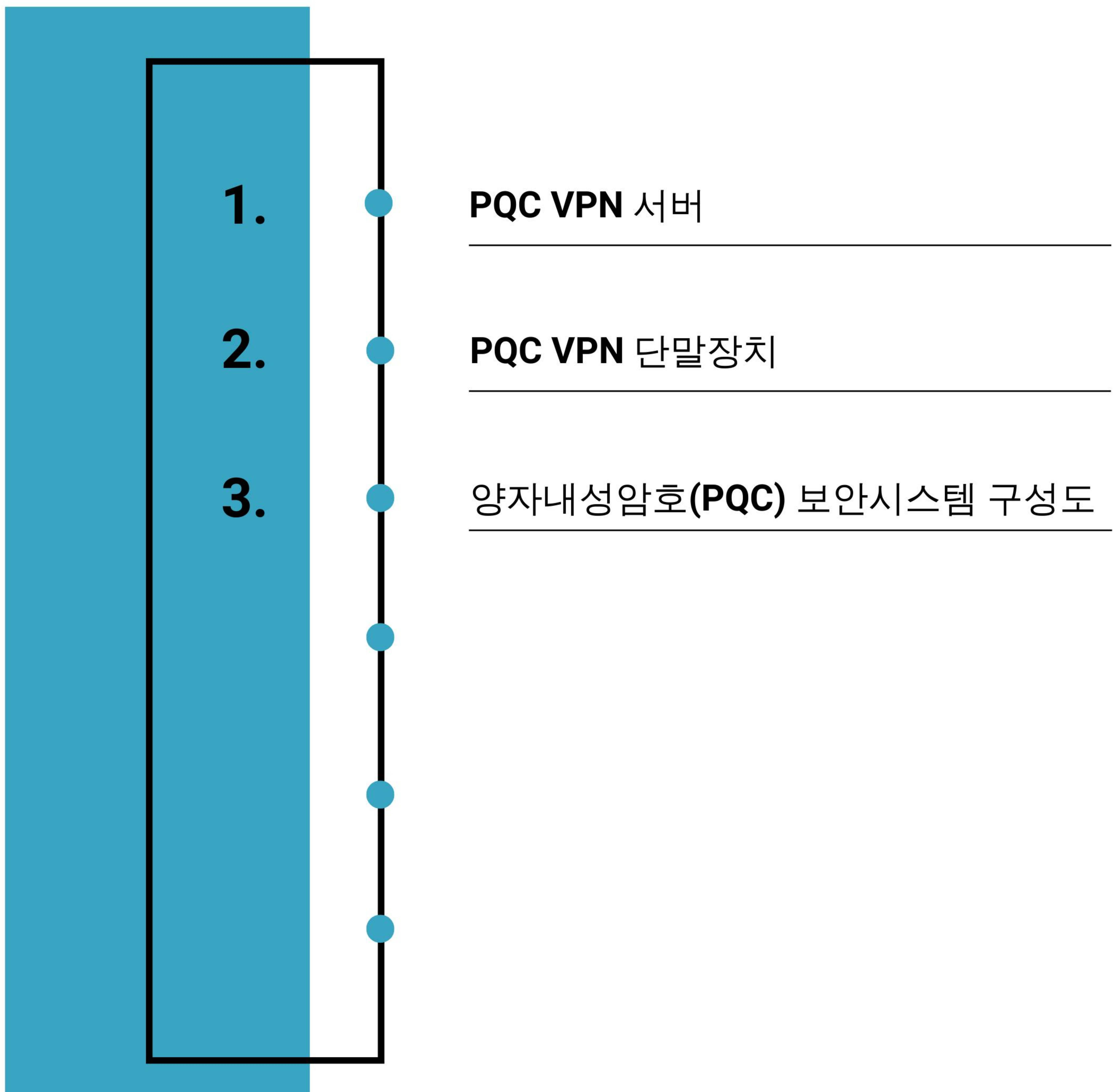
### 양자카메라 이더넷 통신 시스템 구성도





# Chapter II

## 양자내성암호 보안시스템 (Quantum VPN Security System : Q.V.S.S)





# 1. PQC VPN 서버

## 양자내성암호(PQC) VPN 서버 규격



Class	PQC VPN서버
IPsec VPN 서버	AES256(PQC 포함) NIST PQC 표준 알고리즘 모듈
주요 기능	원격 설치 단말에 대한 보안 정책 수립 및 배포 단말 및 VPN 연결을 통한 데이터 복호화 단말 터널 연결 상태의 실시간 모니터링
H/W 규격	NIC 4x10/100/1000 CPU Intel Xeon (16C/32T) Memory 64GB HDD 8TB x 3 100 단말을 수용할 수 있음



## 2. PQC VPN 단말장치

### 양자내성암호(PQC) VPN 단말장치 규격

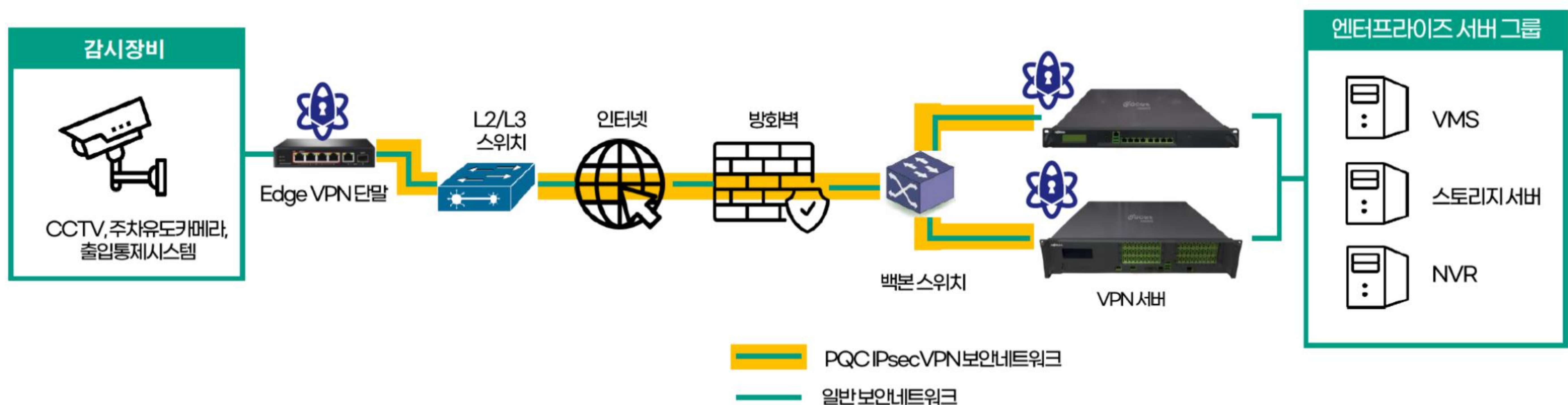


Class	PQC VPN서버
IPsec VPN 단말 장치	AES256(PQC 포함) NIST PQC 표준 알고리즘 모듈
영상 압축	원본 대비 82%~90% 압축 전송 고화질 10Mbps 영상 1.1Mbps 압축 전송 4채널 수용 가능
H/W 규격	CPU ARM 프로세서 NIC 2 x 10/100/1000 작동 온도 -20 ~ 70℃ IPSec, AES128/256, IKE v1/gate 최대 120Mbps 하드웨어 가속 프로세서 장착



### 3. 양자내성암호(PQC) 보안시스템 구성도

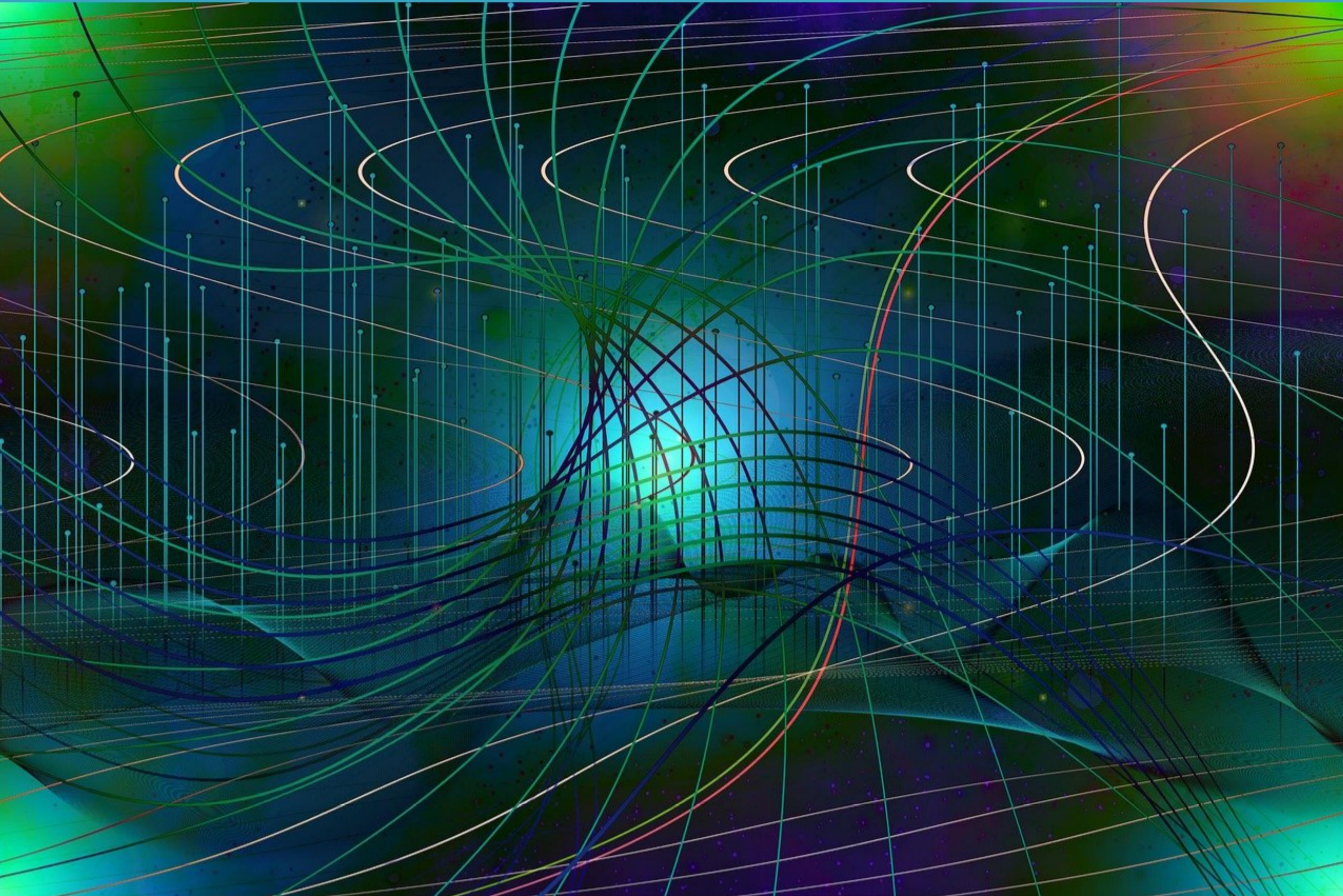
#### 시스템 구성도



#### 주요기능

- PQC 소프트웨어 기반 보안 시스템
- NIST PQC Standards 적용
- 양자 IPsec VPN 보안시스템 솔루션
- VPN 가속 기능 (암/복호화 및 IP캡슐화에 따른 속도 저하 보상)
- Remote VPN 단말장치와의 암/복호화 수행
- VPN 단말장치의 인증 및 터널링, 세션 관리
- 리모트 장치와 센터 장치 관리 및 모니터링
- NDAA & TAA 준수 보안 시스템
- 사이버해킹 및 도청에 대한 완벽한 방지 시스템
- 적용처 : IDC, Medical Center, 국방, 우주항공 산업 등





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