

コアスイッチ Research Core Switches Upgrade (for DC and Campus network) (変更後)

1, 一般事項

(1) 総則

本仕様書は、学校法人沖縄科学技術大学院大学学園（以下、OIST）内で使用する Cisco switches for campus and DC network の仕様について定めるものである。

(2) 構成

S.No	Product Number	Description	Quantity
1	C4 C6840-X-LE-40G	Cisco Catalyst 6840-X-Chassis and 2 x 40G Standard Tables	6
2	CON-SNT- C4 C68X4GXL	SNTC-8X5XNBD Cisco ONE Catalyst 6840-X-Chassis and 2x 40	6
3	S684AEK9-15401SY	Cisco CAT6840-X IOS ADV ENT SERVICES FULL ENCRYPT	6
4	C6800-CAMPUS-CORE	Catalyst 6800 Campus Core Deployment: For Tracking Only	6
5	QSFP-40G-SR4-S	40GBASE-SR4 QSFP Trnscvr Module, MPO Conn, Enterprise-Class	14
6	QSFP-40G-LR4-S	QSFP 40GBASE-LR4 Trnscvr Mod, LC, 10km, Enterprise-Class	2
7	SFP-10G-SR	10GBASE-SR SFP Module	24
8	SFP-10G-LR	10GBASE-LR SFP Module	24
9	C6840-X-1100W-AC	Power Supply AC-1100W	12
10	CAB-C13-C14-2M	Power Cord Jumper, C13-C14 Connectors, 2 Meter Length	12
11	UCS-MR-1X162RZ-A	16GB DDR3-1866MHz RDIMM/PC3-14900/dual rank/1.5V	2
12	UCS-HD12TB10K12G=	1.2 TB 12G SAS 10K RPM SFF HDD	2
13	CP-DSKCH-8821=	Cisco Wireless IP Phone 8821 and 8821-EX Desktop Charger Only	10
14	R-DCNM-SVR-10K9=	DCNM V10 - SW for Server - E-Delivery	1
15	CON-ECMUS-DCNMSV10	SWSS UPGRADES DCNM V10 - SW for Server - Physical Delivery	1
16	N2K-C2348UPQ	Nexus 2000 10 GE UP FEX; 48x1/10GE SFP+; 6x40G QSFP	2
17	CON-SNT-C2348UPQ	SNTC-8x5xNBD Nexus 2000 10GE UP FEX; 48x1/10GE SFP+	2
18	NXA-AIRFLOW-SLV-E	Nexus Airflow Extension Sleeve for 23xx FEX	2
19	CAB-C13-C14-2M	Power Cord Jumper C13-C14 Connectors 2 Meter Length	4
20	N2200-PAC-PAC-400WB-SN	N2200-PAC-400W-B for Service purposes	4
21	NXA-FAN-30CFM-B-SN	Service Specific - Fan	6
22	N2348UPQ-BA-BUN	Port Side Intake airflow pack N2K-C2348UPQ 2AC PS 3Fan	2
23	CON-SNT-2348PQBA	SNTC-8X5XNBD Reverse airflow pack N2K-C	2

(3) 仕様および性能

6840-X Models and Capabilities

6840-X Models	C6840-X-LE-40G
Native Optics	SFP+ and QSFP
Number of 10G Ports	40 + 8 using breakout cable
Number of 40G Ports	2
Features	Full-feature L2/L3 with MPLS, VPLS, IPv4/IPv6 capabilities, 1.5M Netflow
Additional Hardware Features	Large buffers, SGT, MACSec, LISP, dual priority queues, two-level shaping, Instant Access

Cisco Catalyst 6840-X Series System Specifications

Item	C6840-X-LE-40G Specification
Switching Capacity	Up to 240 Gbps Full Duplex
Performance	Up to 180Mpps
Maximum Port Density per Chassis	40 x 10G native + 8 x 10G SFP using breakout cable or 2 x 40G native
Maximum Port Density (VSS)	78 x 10G native + 8 x 10G SFP using breakout cable or 2 x 40G native
Power Supply Compatibility*	AC: 1100W, DC: 1100W
Reliability and Availability	
Online Insertion and Removal (OIR)	OIR supported for redundant Power Supplies and fan tray
Physical dimensions (H x W x D)	
Inches	3.5 x 17.35 x 21.52
Centimetres	8.89 x 44.07 x 54.66
Rack Units (RU)	2RU
Weight	
Chassis with 2 Power Supplies and Built-In Fan **	37.03 lbs/16.8 kgs
Input Voltage	100 to 240 VAC
	-48 to -72 VDC
Safety	UL 60950 Second Edition
	CAN/CSA-C22.2 No. 60950 Second Edition
	EN 60950 Second Edition
	IEC 60950 Second Edition

	AS/NZS 60950
EMC	FCC Part 15 (CFR 47) Class A
	VCCI Class A
	EN55022 Class A
	CISPR 22 Class A
	CE marking
	AS/NZS 3548 Class A
	ETS300 386
	EN55024
	EN61000-6-1
	EN50082-1
NEBS/ETSI	GR-1089-Core NEBS Level 3
	ETS 300 019 Storage Class 1.1
	ETS 300 019 Transportation Class 2.3
	ETS 300 019 Stationary Use Class 3.1
ATIS Pb Free and Energy Efficiency	ATIS-0600020.2010 Pb Free circuit packs
	ATIS-0600015-2009 General Energy Efficiency Requirements (TEER)
	ATIS-0600015.03-2009 Switch and Router Energy Efficiency
	ATIS-0600015.01-2009 Server Energy Efficiency
	VZ.TPR.9205 Verizon Energy Efficiency Requirements for Telecommunication Equipment (TEEER)
Network Management	ETHERLIKE-MIB (RFC 1643)
	IP-MIB and IP-FORWARD-MIB for IPv6
	IF-MIB (RFC 1573)
	Bridge MIB (RFC 1493)
	CISCO-STACK-MIB
	CISCO-VTP-MIB
	CISCO-CDP-MIB
	RMON MIB (RFC 1757)
	CISCO-PAGP-MIB
	CISCO-STP-EXTENSIONS-MIB
	CISCO-VLAN-BRIDGE-MIB
	CISCO-VLAN-MEMBERSHIP-MIB
	ENTITY-MIB (RFC 2037)
	HC-RMON
	RFC1213-MIB (MIB-II)
SMON-MIB	
Operating Environment	
Operating Temperature	32°F to 104°F (0 to 40°C)

Storage Temperature	-4 to 149°F (-20 to 65°C)
Thermal Transition	0.5°C per minute (hot to cold)
	0.33°C per minute (cold to hot)
Relative Humidity	Ambient (noncondensing) operating: 5% to 90%
	Ambient (noncondensing) non-operating and storage: 5% to 95%
Operating Altitude	Certified for operation: 0 to 6500 ft (0 to 2000 m)
	Designed and tested for operation: -200 to 10,000 ft (-60 to 3000 m)
Software Packaging	
Software License (Feature Set)	● IP Services
	● Advanced Enterprise Services
Software Compatibility	15.2(2) SY and later releases ¹
Smartnet	
CON-SNT-C1C68X4G	SNTC-8X5XNBD Cisco ONE Catalyst 6840-X-Chassis and 2x

製品ウェブリンク

<https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-6840-x-switch/datasheet-c78-734470.html>

UCS Mini HDD & Memory	
UCS-MR-1X162RZ-A	16GB DDR3-1866MHz RDIMM/PC3-14900/dual rank/1.5V
UCS-HD12TB10K12G=	1.2 TB 12G SAS 10K RPM SFF HDD

Cisco Wireless Phone Desktop Charger	
CP-DSKCH-8821=	Cisco Wireless IP Phone 8821 and 8821-EX Desktop Charger Only

Cisco Nexus 2K Switch	
Fabric Extender	Description
Cisco Nexus 2348UPQ 10GE	48 x 1/10 Gigabit Ethernet and unified port host interfaces (SFP+) and up to 6 QSFP+ 10/40 Gigabit Ethernet fabric interfaces
Product Specification	
Description	Cisco Nexus 2348UPQ
Fabric extender host interfaces	48
	For 48 x 1/10 Gigabit Ethernet host interface ports

Fabric extender host interface type	<ul style="list-style-type: none"> 1/10 Gigabit Ethernet ports SFP/SFP+ (supported transceiver and cables include Twinax SFP-H10GB-CU1M, SFP-H10GB-CU1-5M, SFP-H10GB-CU2M, SFP-H10GB-CU2-5M SFP-H10GB-CU3M, SFP-H10GB-CU5M, SFP-H10GBACU7M, and SFP-H10GB-ACU10M; SFP+ SFP-10G-SR, SFP-10G-SR-S, SFP-10G-LR, and SFP-10G-LR-S; and SFP GLC-T, GLC-SX-MM, GLC-LH-SM, SFP-GE-T, SFP-GE-S, and SFP-GE-L)
	<ul style="list-style-type: none"> AOC cables: SFP-10G-AOC1M, SFP-10G-AOC2M, SFP-10G-AOC3M, SFP-10G-AOC5M, SFP-10G-AOC7M, and SFP-10G-AOC10M
	<ul style="list-style-type: none"> DS-SFP-FC16G-SW (16, 8 and 4G modes), DS-SFP-FC16G-LW (16, 8 and 4G modes), DS-SFP-FC8G-SW, DS-SFP-FC8G-LW, DS-SFP-FC4G-SW, DS-SFP-FC4G-LW
Fabric extender fabric interfaces	6 x 40 Gigabit Ethernet QSFP (24 x 10 Gigabit Ethernet)
Fabric extender fabric interface type	<ul style="list-style-type: none"> Fiber: QSFP-40G-SR-BD, QSFP-40G-SR4, QSFP-40G-SR4-S, QSFP-40G-LR4, QSFP-40G-LR4-S, and QSFP-40G-CSR4-S
	<ul style="list-style-type: none"> Copper: 40 Gigabit Ethernet QSFP+ active Twinax cables (QSFP-H40G-ACU7M and QSFP-H40G-ACU10M (no passive cables)
	<ul style="list-style-type: none"> AOC cables: QSFP-H40G-AOC1M, QSFP-H40G-AOC2M, QSFP-H40G-AOC3M, QSFP-H40G-AOC5M, QSFP-H40G-AOC7M, QSFP-H40G-AOC10M, and QSFP-H40G-AOC15M
	<ul style="list-style-type: none"> AOC breakout cables: QSFP-4X10G-AOC1M, QSFP-4X10G-AOC2M, QSFP-4X10G-AOC3M, QSFP-4X10G-AOC5M, QSFP-4X10G-AOC7M, and QSFP-4X10G-AOC10M
	<ul style="list-style-type: none"> Copper breakout cables: QSFP-4x10G-AC7M and QSFP-4x10G-AC10M (no passive cables)
	<ul style="list-style-type: none"> Distance between Cisco Nexus 2300 fabric extender and Cisco Nexus 5500 switch is up to 10 km (up to 3 km for FCoE traffic), and for the Cisco Nexus 5600 switch or 6000 Series Switch the distance is up to 3 km (300m for FCoE traffic)
	<ul style="list-style-type: none"> All equivalent S-class optics are supported Cisco 40GBASE QSFP to SFP+/SFP adapter (CVR-QSFP-SFP10G)
Fabric speed	Up to 240 Gbps in each direction
	(480-Gbps full duplex)
Oversubscription	Up to 2:1
Performance	Hardware forwarding at 1440 Gbps or 2160 million packets per second (mpps)
FCoE	FCoE supported (Cisco Nexus 5500 and 5600 platforms and 6000 Series) (select N7k platforms since 7.3 release)
Cisco parent switch	<ul style="list-style-type: none"> Cisco Nexus 5500 and 5600 platforms
	<ul style="list-style-type: none"> Cisco Nexus 6000 Series

	<ul style="list-style-type: none"> ● Cisco Nexus 7000 Series and 7700 platform
	<ul style="list-style-type: none"> ● Cisco Nexus 9300 and 9500 Series
Minimum software	<ul style="list-style-type: none"> ● Cisco NX-OS Release 7.0(3)N1(1)
	(Cisco Nexus 5500 and 5600 platforms and 6000 Series)
	<ul style="list-style-type: none"> ● Cisco NX-OS Release 7.2.0D1(1)
	<ul style="list-style-type: none"> ● (Cisco Nexus 7000 Series and 7700 platform)
	<ul style="list-style-type: none"> ● Cisco NX-OS Release 7.0(3)I2(1)
	<ul style="list-style-type: none"> ● (Cisco Nexus 9300 Series and 9500 platform)
	<ul style="list-style-type: none"> ● Native FC support: Cisco NX-OS Release 7.3(0)N1(1)
	(Cisco Nexus 5600 platforms Only)
Dimensions (H x W x D)	1.72 x 17.3 x 14.05 in. (4.37 x 43.94 x 35.69 cm)
Weight	15.50 lbs. (7.0 kg)
Environment	<ul style="list-style-type: none"> ● Operating temperature: 32 to 131°F (0 to 55°C) ● Non-operating temperature: -40 to 158°F (-40 to 70°C) ● Humidity: 5 to 95 percent (noncondensing) ● Altitude: 0 to 10,000 ft. (0 to 3000m)
Power supply	N2200-PAC-400W-B,
Fan modules	NXA-FAN-30CFM-F and NXA-FAN-30CFM-B (N+1 redundancy = 3 fans)
Typical input operating power	125W at 30m (maximum 200W)
Heat dissipation	425 BTU/hour (typical); 680 BTU/hour (maximum)

(4) 納入場所

学校法人沖縄科学技術大学院大学学園（沖縄県国頭郡恩納村字谷茶 1919-1 OIST において、本学担当者が指定する箇所。

(5) 納入期限

平成 30 年 1 月 31 日

2. 試験及び検査

納入完了後、本学担当者立会いのもとに試験を行い、納入物が正常に起動することの確認をもって検査合格とする。

3, 取扱説明

メーカーから製品とデフォルトでついてくる取り扱い説明書を提供すること。

4, 提出書類

メーカーから製品とデフォルトでついてくる書類を提供すること。

OIST に納品する際は、事前に納品予定日に関する計画書を提出すること。

5, 保証

通常のメーカー保証とする。

6, その他

本仕様に定められた以外の事項で疑義を生じた場合には、双方協議することとし、可能な限り OIST の意向を尊重することとする。納品・搬入にあたっては事前に OIST 担当者と納品予定日に関する情報を共有すること、また納品物が多数になる場合は搬送業者と OIST 内保管場所まで運搬する様に調整する事。

物品は指定した納期までに納品することとするが、万一遅れが生じた場合は速やかに OIST 担当者に報告し、その指示に従うこと。

以上