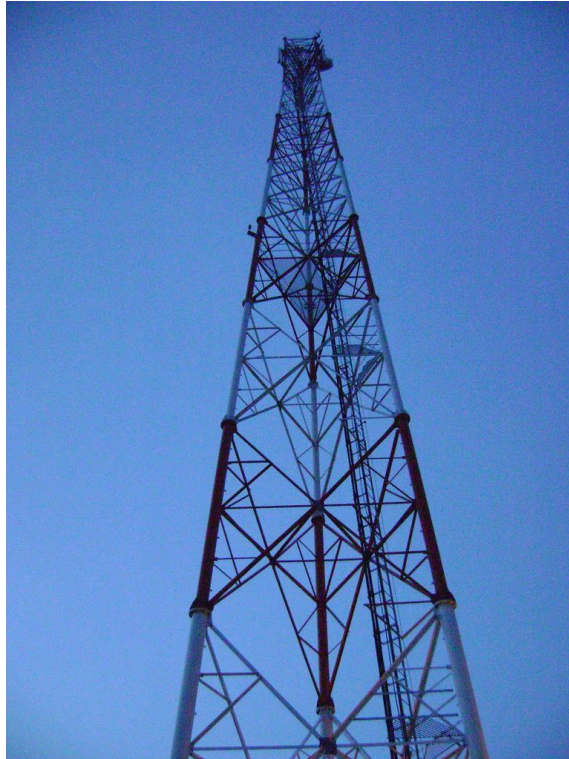


Fidium Switched Ethernet Service ASR Ordering Guide for Wireless Backhaul-CA,IA,IL,KS,MN,MO,PA,TX,ND,SD,WI



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Ordering Overview

Access Service Requests (ASRs) will be used to process customer service orders for Switched and Aggregated Ethernet Service (Ethernet Service) ordered from a Master Service Agreement (MSA). This document contains information necessary to correctly populate an ASR for new or change order activity for Ethernet Service.

The ASR will identify the user network interface, routing method and CIR requested for Ethernet Service. Ethernet Service has unique ordering requirements. A physical port must be ordered for each end-user location, IXC/ISP POP, cell site or MTSO into the switched Ethernet core network that is accessed.

Once the physical ports are ordered, Ethernet Virtual Connections (EVCs) connect the physical ports to one another via logical links within the network.

Product Elements

- **Port Connection** - Provides the physical transport facilities from the customer's premises to an Ethernet switch at FIDIUM. Available at transmission speeds of **100M, 1G, 10G, 25G, 40G, 100G**. (NOTE: A NNI/UNI port connection circuit cannot be disconnected until all associated Ethernet Virtual Circuits are disconnected.)
 - **Port-Based UNI** – Supports one EVC
 - **VLAN-Based UNI** – Supports multiple EVCs
- **Committed Information Rate (CIR)** - Provides the bandwidth available on a Customer Port Connection. CIR is available per Customer Port Connection and is provided by Network Channel Code (NC)

Ethernet Virtual Circuit (EVC) - Provides a logical channel to enable the flow of Ethernet traffic for point-to-point (P2P) configurations. **Multipoint EVC's are not available at this time.**



Please use the applicable NC codes for Port based or VLAN based.

Ordering Requirements

Please use the following guidelines for processing a Switched Ethernet Service via an ASR:

- ✚ **REQTYP “S”** is only required for Aggregated Ethernet Service. This is a P2P Ethernet Service that does not involve a NNI.
 1. Collocated in our COs, or
 2. At a Carrier Hotel

- ✚ **REQTYP “E”** is used for ordering an **UNI** to an End User location.



Fidium in these ICSC Entities prefer Combo ASRs for End User locations and any Aggregated Ethernet sites but are not required. (Combo-EVCI field = B).

- ✚ EVCI= A- for non-combo order (UNI only and separate EVC order)
Service Type: END USER Switched Ethernet

- ✚ EVCI= B- for combo orders (both UNI and EVC) (**preferred**) **Service Type: END USER Switched Ethernet EVC**

- ✚ The CNO field on the Admin ASR form should be populated when FIDIUM provides a quote ID.

- ✚ VTA field is required per contract

✚ **SPEC Code is required for Class of Service (CoS) starting Jan 2022**

- ✚ CIR/Speed 5M up to 100G

- ✚ BAN- can use “E” for existing BAN (N if new BAN is required)

- ✚ Meetpoint is not allowed with Ethernet Backhaul Service

- ✚ UNI and EVC Circuit IDs will be returned on the FOC

- ✚ Please note in remarks if Wireless Backhaul Service

ICSC Codes

State ICSC	Company
FB01	FIDIUM OF FORT BEND CO (PREV FT. BEND TELEPHONE CO), IRVING, TX
LF10	FIDIUM OF TEXAS COMPANY LUFKIN, TX
IC90	ILLINOIS FIDIUM TEL, MATTOON, IL
NP05	NORTH PITTSBURGH TELCO, GIBSONIA, PA
PT30	PENN TELECOM INC., CRANBERRY TWSP, PA
CC05	FIDIUM TELCOM SRVS., MATTOON, IL
EV10	FIDIUM (Kansas and Missouri)
RS02	CITRUS HEIGHTS, CA
ET02	ENVENTIS TELECOM (a.k.a. MINNESOTA POWER TELECOM), DULUTH, MN
MK01	MANKATO CITIZENS TEL CO, MANKATO, MN
IO01	IDEAONE TELECOM GROUP L.L.C., FARGO, ND

Class of Service (SPEC Code)

Effective 1/XX/2022 Fidium will be adding the Class of Service (CoS) levels to all their Carrier Switched Ethernet Products, EVPL and EPL, for the above ICSC Codes:

SPEC Code

The SPEC Code is required on the ASR form and the EVC form.

If the ASR comes in with the SPEC code blank or an incorrect SPEC code, the order will be put into clarification in VFO and requires a sup to correct.

The CoS offered:

SPEC	BW Profile Name	Description
VPEVCCR	Fixed Mission Critical (MC)	Fixed CoS with 100% allocated to Mission Critical CoS
VPEVCEX	Fixed Expedite Data	Fixed CoS with 100% allocated to Expedite Data CoS
VPEVCBE	Fixed Standard Data (SD)	Fixed CoS with 100% allocated to Standard Data
VPEVCRT	Real Time (RT) / PPCOS	Per Packet Class of service allocated between three classes of service (RT, MC, SD) as defined in the ASR PPCOS field.

UNI Order SPEC Example

The UNI order will require a SPEC code indicating the COS. This is the field on the ASR form. It must be the same SPEC on the UNI and EVC form. This is required for both Combo and non-combo orders.

The screenshot shows the ASR form with the following fields and values:

- ASR** (highlighted in red)
- SES**
- EVC**
- NAI**
- GEN.INFO**
- ADMINISTRATIVE [Required]**
- CCNA**: [Blank]
- PON**: EX_COMBO
- VER**: 01
- ASRNO**: [Blank]
- SPA**: [Blank]
- ICSC**: NP05
- CC**: [Blank]
- UNE**: --Select--
- QA**: --Select--
- CBD**: [Blank]
- DDD**: 01/12/2022
- FDT**: [Blank]
- PROJECT**: COS
- CCI**: --Select--
- CNO**: [Blank]
- PPTD**: [Blank]
- NOR**: [Blank]
- LUP**: [Blank]
- BSA**: --Select--
- REQTYP**: ED
- ACT**: N
- ACTI**: --Select--
- EU**: --Select--
- QSA**: 01
- WST**: --Select--
- LATA**: 123
- EVC**: B
- SEI**: Y
- PVCI**: --Select--
- NPVC**: [Blank]
- RTR**: S
- SUP**: --Select--
- AFO**: [Blank]
- QNAI**: [Blank]
- TQ**: [Blank]
- EXP**: --Select--
- EDA**: --Select--
- AENG**: --Select--
- ALBR**: --Select--
- AGAUTH**: --Select--
- DATED**: [Blank]
- CUST**: CCI
- LA**: --Select--
- LADATED**: [Blank]
- LANM**: [Blank]
- JPR**: [Blank]
- NAG**: [Blank]
- PSLI**: --Select--
- CKR**: [Blank]
- UNIT**: C
- PIU**: 100
- PLU**: [Blank]
- WSI_P**: --Select--
- WSI_S**: --Select--
- LTP**: [Blank]
- ECCKT**: [Blank]
- QTY**: 01
- BAN**: E
- ASG**: [Blank]
- BIC**: --Select--
- BIC_TEL**: [Blank]
- BIC_ID**: [Blank]
- TSC**: [Blank]
- ISTN**: [Blank]
- ACTL**: [Blank]
- APOT**: [Blank]
- RORD**: [Blank]
- RPON**: [Blank]
- LAG**: --Select--
- CCVN**: [Blank]
- ASC_EC**: --Select--
- TSP**: [Blank]
- SAN**: [Blank]
- GOV**: --Select--
- SPEC**: VPEVCCR (highlighted in red)
- PREV_PON**: [Blank]
- ASR_REMARKS**: EXAMPLE OF SPEC CODE

EVC Order SPEC Example

There are two fields on the EVC portion of the ASR that will be used to determine the Class of Service ordered; (SPEC and PPCOS).

- For the Fixed COS, the Spec Code field will determine the CoS and the PPCOS Field is **not** required.
- Real Time (per packet CoS) the Spec Code field **and** the PPCOS Field is required, along with either the P_BIT or DSCP field. The PPCOS field will indicate the percentages of the three CoS needed.

EVC Order Example

The SPEC Code field is on the EVC forms of the ASR. On the EVC order the SPEC code is required for both terminations of the NNI and UNI. The SPEC code must be the same for both terminations.



ETHERNET VIRTUAL CONNECTION [Required]				
EVCNUM	NC	EVCID	NUT	OAM_IND
0001	VLP-		02	--Select--
SVP	MSFS	CEV_P	CEV_CP	
--Select--		--Select--	--Select--	
EVCCKR				
EPS				

ETHERNET VIRTUAL CONNECTION UNI MAPPING DETAIL [1] [Optional Conditional]					
UREF	EI	AUNT	UACT	RPON	NCI
01	--Select--	--Select--	N		02VLN.A2
EVCSP	BUM_FD	RUID	RL	EVCNPID	
CONRTXXA		13/L9GN/000223//LCTX/	--Select--		
OTC	ASN	VPN_ACT	VPN_ID	VPN_NM	
		--Select--			

1st Termination

SERVICE VIRTUAL LOCAL AREA NETWORK MAPPING DETAIL [1] [Optional Conditional]								
ETHERNET VIRTUAL CONNECTION LEVEL OF SERVICE MAPPING DETAIL [1] [Optional Conditional]								
LREF	LOSACT	LOS	SPEC	P_BIT	BDW	DSCP	TOS	CIR_I
1	N		VPEVCBE		100G			
CBS_I	EIR_I	EBS_I	CHI_I	BCF_I	P_BITC_I	P_BITC_E	PPCOS	
			--Select--	--Select--				

ETHERNET VIRTUAL CONNECTION UNI MAPPING DETAIL [2] [Optional Conditional]									
UREF	EI	AUNT	UACT	RPON	NCI				
02	--Select--	--Select--	N		02VLN.V				
EVCSP	BUN_FD	RUID	RL	EVCMPID					
HSTNTX89		74/KUGN/080226//EVT/	--Select--						
OTC	ASN	VPN_ACT	VPN_ID	VPN_NM					
		--Select--							
CUSTOMER EDGE VIRTUAL LOCAL AREA NETWORK [Required]									
CE_VLAN_START	CE_VLAN_END								
0200									
ETHERNET VIRTUAL CONNECTION LEVEL OF SERVICE MAPPING DETAIL [1] [Optional Conditional]									
LREF	LOSACT	LOS	SPEL	P_BIT	BW	DSCP	TOS	CIR_I	
1	N		VPEVCBE		100G				
CBS_I	EIR_I	EBS_I	CMI_I	BCF_I	P_BITC_I	P_BITC_E	PPCOS		
			--Select--	--Select--					

2nd Termination

Real Time- PPCOS Ordering Requirements

Enter the Real Time SPEC code of **VPEVCRT** in the SPEC code field of the ASR along with the percentages desired, in the PPCOS field.

The PPCOS field identifies the traffic for each packet class of service allocation delivered over the EVC.

- Real Time (RT)
- Critical (MC)
- Standard (SD)

Example: 25/50/25 would be 25% Real Time, 50% Mission Critical, and 25% for Standard Data levels.

- 25%RT,50%MC,25%SD (use comma to separate)
- Must add up or equal to a 100

Also required is the P-BIT populated with “1” **or** the DSCP populated with 000000000001

ETHERNET VIRTUAL CONNECTION LEVEL OF SERVICE MAPPING DETAIL [1] [Optional Conditional]									
LREF	LOSACT	LOS	SPEC	P_BIT	BDW	DSCP	TOS	CIR_I	
1	N		VPEVCRT	1	100M				
CBS_I	EIR_I	EBS_I	CMI_I	BCF_I	P_BITC_I	P_BITC_E	PPCOS		
			--Select--	--Select--			25%RT,50%MC,25%SD		

OR

ETHERNET VIRTUAL CONNECTION LEVEL OF SERVICE MAPPING DETAIL [1] [Optional Conditional]									
LREF	LOSACT	LOS	SPEC	P_BIT	BDW	DSCP	TOS	CIR_I	
1	N		VPEVCRT		100M	000000000001			
CBS_I	EIR_I	EBS_I	CMI_I	BCF_I	P_BITC_I	P_BITC_E	PPCOS		
			--Select--	--Select--			25%RT,50%MC,25%SD		

PPCOS Chart

	Bandwidth Profile Name	Guaranteed Bandwidth Allocation		
		Real Time % Maximum	Critical % Minimum	Standard % Minimum
90-100% Real-Time PPCOS	100/0/0	100%	0%	0%
	90/10/0	90%	10%	0%
	90/0/10	90%	0%	10%
75% Real-Time PPCOS	75/25/0	75%	25%	0%
	75/0/25	75%	0%	25%
50% Real-Time PPCOS	50/50/0	50%	50%	0%
	50/25/25	50%	25%	25%
	50/0/50	50%	0%	50%
25% Real-Time PPCOS	25/75/0	25%	75%	0%
	25/50/25	25%	50%	25%
	25/25/50	25%	25%	50%
	25/0/75	25%	0%	75%
Critical PPCOS	0/100/0	0%	100%	0%
	0/75/25	0%	75%	25%
	0/50/50	0%	50%	50%
	0/25/75	0%	25%	75%



The PPCOS along with either the P-BIT or DSCP fields are **only** required when the COS is Real Time VPEVCRT.

VTA

- ASRs must be submitted with 12, 24, 36, 60 or 84 month VTAs
- Month-to-month (M2M) option is not available
- The M2M extension term rate is only available after a term has fully matured

Jumbo Frames

- To order jumbo frames, populate the MSFS field on the ASR for the MTU size **AND** noted in remarks.

VLAN

Carrier can request a VLAN or Fidium will assign it.

Circuit IDs

The circuit IDs will reflect the NC code used on the ASR in the modifier field.

- XX/KQGN/123456//XXX/
- XX/KRGN/123456//XXX/
- XX/KSGN/123456//XXX/
- XX/KUGN/123456//XXX/
- EVC Circuit ID: XX/VLXU/123456//XXX/

Ordering Requirements for Standalone EVC (if combo can't be issued)

- EVCI= A
- When an EVC is ordered as a standalone EVC and not on a Combo ASR, the EVC needs to be submitted when the related UNI order is in a confirm status
- The EVC(s) must be ordered within 10 days after the FOC of the UNI order.
- UNI and EVC will have the same due date
- If the EVC is not received within 10 business days of the UNI's confirmation, Fidium can cancel the UNI order at their discretion.
- NC= VLP-
- Bandwidth is 5M up to 100G
- The EVC must have two terminations (RUIDS), i.e., NNI to UNI or UNI to UNI
- Use applicable ICSC code per Fidium entity (see list on p.5)
- EVC can be equal to or less than the UNI CIR (**rates apply to UNI CIR**)
- For Industry Standards the NNI RUID should be populated in the RUID field on UREF 02 termination.

Interval

Ordering intervals for Switched Ethernet Service is 20 business days from clean receipt of ASR.

Fidium will try to issue FOC/Clarification/Response within 10 business days of ASR receipt for **on-network** buildings only.

If the order needs a facility build, then Fidium will send a FOC and Due Date with the best possible date.



A list of on-net buildings can be obtained from your Account Executive

Billing

- Every tower will have at least a 1Gig Port and the UNI CIR/Speed can be equal to or less than 1G
- The EVC Speed can be equal to or less than the UNI CIR, but the UNI CIR rates will apply
- EVC is at no charge as rates are built into the UNI price
- A facility build will be an ICB

Example:

UNI CIR is 500M on 1G port

EVC is 100M

Bill Rate is for 500M UNI

EVC is \$.00

NC Codes

NC Code Breakdown



Ethernet 100 Mbps – Port Based with CIR Options (Not Common for Wireless)

NC	Port CIR Speed (4 TH Position)	Permissible NCI/SECNCI Options
KQAP	3 Mbps	<u>NCI Electrical Interface</u> 04LN9.1CT (100 Base T) <u>NCI Optical Interfaces</u> 02LNF.A02 (100 Base LX) SMF 02LNF.A04 (100 Base SX) MMF <u>SECNCI</u> 02CXF.1GE (Central Office)
KQAM	5 Mbps	
KQA1	10 Mbps	
KQAA	15 Mbps	
KQA2	20 Mbps	
KQAB	25 Mbps	
KQA3	30 Mbps	
KQA4	40 Mbps	
KQA5	50 Mbps	
KQA-	100 Mbps	

NOTE: NC = Network Channel; NCI = Network Channel Interface; SECNCI = Secondary Network Channel Interface (SECNCI) Codes

Ethernet 100 Mbps - VLAN Based with CIR Options (Not Common for Wireless)

NC	Port CIR Speed (4 TH Position)	Permissible NCI/SECNCI Options
KQEN	3 Mbps	<u>NCI Electrical Interface</u> 04LN9.1CT (100 Base T) <u>NCI Optical Interfaces</u> 02LNF.A02 (100 Base LX) SMF 02LNF.A04 (100 Base SX) MMF <u>SECNCI</u> 02CXF.1GE (Central Office)
KQEJ	5 Mbps	
KQE1	10 Mbps	
KQEA	15 Mbps	
KQE2	20 Mbps	
KQEB	25 Mbps	
KQE3	30 Mbps	
KQE4	40 Mbps	
KQE5	50 Mbps	
KQE-	100 Mbps	

Ethernet 1 Gbps - Port Based CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KRBJ	50 Mbps	<u>NCI Electrical Interface</u> 08LN9.1GE (1000 Base T) <u>NCI Optical Interfaces</u> 02LNF.A02 (1000 Base LX) SMF 02LNF.A04 (1000 Base SX) MMF 02QBF.K02 (Collocation/1000 Base) SMF <u>SECNCI</u> 02CXF.1GE (Central Office)
KRA1	100 Mbps	
KRAB	150 Mbps	
KRA2	200 Mbps	
KRA3	300 Mbps	
KRA4	400 Mbps	
KRA5	500 Mbps	
KRA6	600 Mbps	
KRA7	700 Mbps	
KRA8	800 Mbps	
KRA9	900 Mbps	
KRA0	1000 Mbps (1 Gbps)	

Ethernet 1 Gbps - VLAN Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KRFJ	50 Mbps	<u>NCI Electrical Interface</u> 08LN9.1GE (1000 Base T) <u>NCI Optical Interfaces</u> 02LNF.A02 (1000 Base LX) SMF 02LNF.A04 (1000 Base SX) MMF 02QBF.K02 (Collocation/1000 Base) SMF <u>SECNCI</u> 02CXF.1GE (Central Office)
KRE1	100 Mbps	
KREB	150 Mbps	
KRE2	200 Mbps	
KRE3	300 Mbps	
KRE4	400 Mbps	
KRE5	500 Mbps	
KRE6	600 Mbps	
KRE7	700 Mbps	
KRE8	800 Mbps	
KRE9	900 Mbps	
KRE0	1000 Mbps (1 Gbps)	

Ethernet 10 Gbps - Port Based with CIR Options

NC	Port CIR Speed (4TH Position)	Permissible NCI/SECNCI Options
KSAB	.5G (500M)	<u>NCI Optical Interfaces</u> 02LNF.A02 (10G Base SR) SMF 02LNF.A04 (10G Base LW) MMF 02QBF.K02 (Collocation/10G Base) SMF <u>SECNCI</u> 02CXF.10G (Central Office)
KSA1	1 Gbps	
KSA2	2 Gbps	
KSA3	3 Gbps	
KSA4	4 Gbps	
KSA5	5 Gbps	
KSA6	6 Gbps	
KSA7	7 Gbps	
KSA8	8 Gbps	
KSA9	9 Gbps	
KSA-	10 Gbps	

Ethernet 10 Gbps - VLAN Based with CIR Options

NC	Port CIR Speed (4TH Position)	Permissible NCI/SECNCI Options
KSEB	.5 (500Mbps)	<u>NCI Optical Interfaces</u> 02LNF.A02 (10G Base SR) SMF 02LNF.A04 (10G Base LW) MMF 02QBF.K02 (Collocation/10G Base) SMF <u>SECNCI</u> 02CXF.10G (Central Office)
KSE1	1 Gbps	
KSE2	2 Gbps	
KSE3	3 Gbps	
KSE4	4 Gbps	
KSE5	5 Gbps	
KSE6	6 Gbps	
KSE7	7 Gbps	
KSE8	8 Gbps	
KSE9	9 Gbps	
KSE-	10 Gbps	



Port Base means no VLAN will apply to the circuit



VLAN Base means a VLAN will apply to the circuit

New Speeds Jan/2022

Starting in January 2022 FIDIUM will offer new Port Speeds of 25G, 40G, and 100G

Ethernet 25 Gbps - Port Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KVAB	10 Gbps	<u><i>NCI Optical Interfaces</i></u> 02LNF.2LA (25G Base LR) SMF 02LNF.2SA (100G Base SR) MMF 02QBF.2LA(Collocation/100G Base) SMF 02QBF.2SA(Collocation/100G Base) MMF <u><i>SECNCI</i></u> 02CXF.2U (UNI) 02CXF.2E (NNI)
KVAA	20 Gbps	
KVA-	25 Gbps	

Ethernet 25 Gbps - VLAN Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KVEB	10 Gbps	<u><i>NCI Optical Interfaces</i></u> 02LNF.2LA (25G Base LR) SMF 02LNF.2SA (100G Base SR) MMF 02QBF.2LA(Collocation/100G Base) SMF 02QBF.2SA(Collocation/100G Base) MMF <u><i>SECNCI</i></u> 02CXF.2U (UNI) 02CXF.2E (NNI)
KVEA	20 Gbps	
KVE-	25 Gbps	

Ethernet 40 Gbps - Port Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KTAK	20 Gbps	<u>NCI Optical Interfaces</u> 02LNF.4LA (40G Base LR4) SMF 02LNF.4SA (40G Base SR4) MMF 02QBF.4LA (Collocation/10G Base) SMF 08QBF.4SA (Collocation/10G Base) MMF <u>SECNCI</u> 02CXF.40G (UNI) 02CXF.40E (NNI)
KTAL	25 Gbps	
KTA-	40 GBPS	

Ethernet 40 Gbps - VLAN Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KTEJ	20 Gbps	<u>NCI Optical Interfaces</u> 02LNF.4LA (40G Base LR4) SMF 02LNF.4SA (40G Base SR4) MMF 02QBF.4LA (Collocation/10G Base) SMF 08QBF.4SA (Collocation/10G Base) MMF <u>SECNCI</u> 02CXF.40G (UNI) 02CXF.40E (NNI)
KTEK	25 Gbps	
KTE-	40 Gbps	

Ethernet 100 Gbps - Port Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KUAB	10 Gbps	<u><i>NCI Optical Interfaces</i></u> 02LNF.CSA (100G Base SR4) SMF 02LNF.CA4 (100G Base LR4) MMF 02QBF.CA4(Collocation/100G Base) SMF 02QBF.CSA(Collocation/100G Base) MMF <u><i>SECNCI</i></u> 02CXF.1HG (UNI) 02CXF.NM1 (NNI)
KUAD	20 Gbps	
KUAE	25 Gbps	
KUAH	40 Gbps	
KUAK	50 Gbps	
KUA-	100 Gbps	

Ethernet 100 Gbps - VLAN Based with CIR Options

<u>NC</u>	<u>Port CIR Speed (4TH Position)</u>	<u>Permissible NCI/SECNCI Options</u>
KUEB	10 Gbps	<u><i>NCI Optical Interfaces</i></u> 02LNF.CSA (100G Base SR4) SMF 02LNF.CA4 (100G Base LR4) MMF 02QBF.CA4(Collocation/100G Base) SMF 02QBF.CSA(Collocation/100G Base) MMF <u><i>SECNCI</i></u> 02CXF.1HG (UNI) 02CXF.NM1 (NNI)
KUED	20 Gbps	
KUEE	25 Gbps	
KUEH	40 Gbps	
KUEK	50 Gbps	
KUE-	100 Gbps	



10G-100G Ports are only offered as Optical

NCI/SECNCI Codes

Network Channel Interface (NCI) and Secondary Network Channel Interface (SECNCI) Codes:

NCI Code 04LN9.1CT (Used with 100 Mbps Electrical)		
04	=	Four Conductors (4-wire)
LN	=	Local Area Network Interface
9	=	100 Ohms
1CT	=	100 Base-T Ethernet
NCI Codes 02LNF.A02 or A04 (Used with 100 Mbps Optical)		
02	=	Two Conductors (2-fiber)
LN	=	Local Area Network Interface
F	=	Fiber
A02	=	1310 nm, Single-mode Fiber (100 Base LX/LH)
A04	=	850 nm, 50 micron Multi-mode fiber (100 Base SX)
NCI Code 08LN9.1GE (Used with 1 Gbps Electrical)		
08	=	Eight Conductors (4-wire)
LN	=	Local Area Network Interface
9	=	100 Ohms
1GE	=	1000 Base-T Ethernet
NCI Codes 02LNF.A02 or A04 (Used with 1 Gbps Optical)		
02	=	Two Conductors (2-fiber)
LN	=	Local Area Network Interface
F	=	Fiber
A02	=	1310 nm, Single-mode Fiber (1000 Base LX/LH)
A04	=	850 nm, 50 micron Multi-mode fiber (1000 Base SX)
NCI Codes 02LNF.A02, A03 or A04 (Used with 10 Gbps Optical)		
02	=	Two Conductors (2-fiber)
LN	=	Local Area Network Interface
F	=	Fiber
A02	=	1310 nm, Single-mode Fiber (10000 Base LX)
A04	=	850 nm, 50 micron Multi-mode fiber (10000 Base SX)
NCI Codes 02QBF.K02 (Collocation)		
02	=	Two conductors (2-fiber)
QB	=	Central Office manual cross connect termination with no sub-rating capability for non-multiplexed facilities only
F	=	Fiber
K02	=	1310 nm, single-mode fiber
SECNCI Code 02CXF.1GE (Central Office Termination)		
02	=	Two conductors (2-fiber)
CX	=	Digital termination on a switch
F	=	Fiber
1GE	=	1 Gigabit Ethernet (User to Network Interface (UNI))
SECNCI Code 02CXF.10GE (Central Office Termination)		
02	=	Two conductors (2-fiber)
CX	=	Digital termination on a switch
F	=	Fiber
10GE	=	10 Gigabit Ethernet (User to Network Interface (UNI))

EVC NC and NCI Coding

EVC NC Options - Carrier Coding Guide (CCG) Tab 2

EVC NC Pos 1-2	EVC NC Pos 3	EVC NC Pos 4	Description
VL	P	- (dash)	Ethernet Virtual Connection (EVC) point-to-point - An association of two or more UNIs that limits the exchange of Service Frames to UNIs in the Ethernet Virtual Connection per MEF 10. Defined in MEF 10 as an association of exactly two UNIs.

EVC NCI – Protocol Options – CCG Tab 3

Conductors	Protocol	Impedance	Protocol Options	Description
02	VL	N	A2	Port - all to one bundle. Used with <u>Port based UNI</u> that will send a <u>combination</u> of uncoordinated tagged and untagged traffic. No service multiplexing.
			V	Port + CEVLAN Map Used with <u>VLAN based UNI</u> that will only send tagged coordinated traffic.
			UNT	Port – Untagged Used with <u>Port Based UNI</u> that will send uncoordinated untagged traffic.

EVC CLCI (Circuit ID Service Code) Options – CCG ‘Special Services’ Tab

Service Code		Description
VLXP	Access	Ethernet Virtual Connection (EVC) - Represents the exchange of Ethernet service frames between only two UNIs (point-to-point). Defined in MEF 10 as an association of exactly two UNIs.

Port NC Code and EVC NCI Protocol – Combinations

Port NC Code	Port Interface Type	Port Routing Type	EVC Protocol Option(s)	EVC Protocol Description
KQA*	Electrical (100 Mbps Base T)	Port Based	02VLN. A2	All in one
KQE*	Electrical (100 Mbps Base T)	VLAN Based	02VLN. V	Tagged
KRA*	Electrical/Optical (1 Gbps)	Port Based	02VLN. A2	All in one
KRE*	Electrical/Optical (1 Gbps)	VLAN Based	02VLN. V	Tagged
KSA*	Optical (10 Gbps)	Port Based	02VLN. A2	All in one
KSE*	Optical (10 Gbps)	VLAN Based	02VLN. V	Tagged
KVA	Optical (25 Gbps)	Port Based	02VLN. A2	All in One
KVE	Optical (25Gbps)	VLAN Based	02VLN. V	Tagged
KTA	Optical (40 Gbps)	Port Based	02VLN. A2	All in One
KTE	Optical (40 Gbps)	VLAN Based	02VLN. V	Tagged
KUA	Optical (100 Gbps)	Port Based	02VLN. A2	All in One
KUE	Optical (100 Gbps)	VLAN Based	02VLN. V	Tagged

*4th position of NC is variable and represents the CIR speed

EVC NC and NCI Coding Combinations

The end user UNIs can be ordered as Port based UNIs with a point-to-point EVC connection to the aggregation UNI.

Or the aggregation UNI can be ordered as a VLAN based port, which provides unique paths for the aggregated frames.

In this configuration, the connection between the end user and the aggregator is ordered as a point-to-point EVC.

EU UNI - Port Based:

NC – VLP- (point-to-point)

NCI – 02VLN.A2 (all to one bundling)

NCI- 02VLN.UNT (untagged)

Aggregation UNI – VLAN Based:

NC – VLP- (point-to-point)

NCI – 02VLN.V (VLAN tagged)

When applying the NC codes whether Port or VLAN base, the UNI and EVC NCI code must match up. If the NC code contains an “A” in the 3rd character, the NCI of the UNI needs to be **A2**, and if the NC code contains an “E” in the 3rd character, the NCI of the EVC is **V**.

Port NC Code	Port Interface Type	Port Routing Type	EVC Protocol Option(s)	EVC Protocol Description
KQA*	Electrical (100 Mbps Base T)	Port Based	02VLN. A2	All in one
KQE*	Electrical (100 Mbps Base T)	VLAN Based	02VLN. V	Tagged
KRA*	Electrical/Optical (1 Gbps)	Port Based	02VLN. A2	All in one
KRE*	Electrical/Optical (1 Gbps)	VLAN Based	02VLN. V	Tagged
KSA*	Optical (10 Gbps)	Port Based	02VLN. A2	All in one
KSE*	Optical (10 Gbps)	VLAN Based	02VLN. V	Tagged

Ordering Examples

The following are ASR examples for ordering Switched Ethernet Services. The examples do not necessarily represent all possible configurations or the ASR fields required to order Ethernet Services. Please refer to the ASOG for additional details.

ASR Information

REQTYP S is only required for Aggregated Ethernet Service. This is a P2P Ethernet Service that does not involve a NNI.

3. Collocated in our COs, or
4. At a Carrier Hotel

REQTYP E is used for ordering an **UNI** to an End User location.

If possible submit Combo ASRs for End User locations and any Aggregated Ethernet sites you wish to have a VLAN assigned to (EVCI field = B).

UNI PORT and EVC Combo ASRs

Service Type= Transport Switched Ethernet EVC (REQTYP SD)

Service Type= END USER Switched Ethernet EVC (REQTYP ED)

New UNI Port and EVC via a Combo ASR	
Using the Combo ASR process is <u>preferred</u> The Combo ASR allows the customer to submit a single ASR with one UNI Port and one EVC. This process is only allowed for ‘new’ or ‘complete disconnect’ activity.	
• Combo ASR entries: ○ UNI Port ASR – No special requirements, business as usual ○ EVC ASR - EVCI field MUST be populated with a “B”	
ASR Field/Form	ASR Field Entry Value
ICASR Screen	
REQTYP	ED or SD
RTR (Response Type Request)	S (DLR to be issued) D or F (No DLR will be issued)
CNO (Case Number)	FIDIUM provided quote ID
QSA (REQTYP “E”) (Quantity Service Address)	01
SEI (Switched Ethernet Indicator)	Y
EVCI (Ethernet Virtual Connection Indicator)	B
ACTL	SD REQTYP - ACTL CLLI assigned to customer POP/Cell Site (for Aggregated Ethernet Service) ED REQTYP – Leave Field Blank
PIU (Percentage Interstate Usage)	100
QTY	0000001
SPEC	CoS VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT

BAN	N: New BAN Request E: Existing BAN The BAN you want to Bill: (EX:123 N25-1000)
REMARKS	Include handoff/interface, if Jumbo Frames required. Wireless Backhaul if applicable
ICADM Screen	
ACNA	ABC
VTA (ASR – Bill Section) (Variable Term Agreement)	Format = XX XX = contract term in months (12, 24, 36, 48, 60)
FUSF (Federal Universal Service Fee)	E = Exempt N = Non-Exempt
ICES Screen	
NC	See 'Code' Section
NCI	NCI at ACTL/POP/Cell Site – See 'Code' Section
SECNCI	NCI at CO – See 'Code' Section
ICSAP Screen	
REQTYP "E" Only	
EU Name	End User Customer Name
SANO, SASN, etc.	End User Address
JS Jack Status	D (DEMARC)
AAI	Any additional information for installation
LCON, ACTEL, and Email	Name, Tel # and Email to contact for Site Visit
EVC	
ASR FIELD	VALUE
ICEVC Screen	
EVCNUM (Ethernet Virtual Connection Reference Number)	001
NC (Network Channel)	VLP- Point to Point
NUT (Number of Terminations)	Quantity of EVC UNI terminations on the ASR
UREF (UNI Reference Number)	UNI Reference Number
UACT (UNI Activity Indicator)	UNI Activity Indicator (N, C or D)
AUNT: (Associated UNI/ENNI Termination)	For UREF 01 Only: A
RUID (Related UNI Identifier)	For UREF 01: Leave Blank: For UREF 02: UNI/NNI Port Circuit ID
NCI (Network Channel Interface)	02VLN.A2 – Port combination tagged and untagged 02VLN.V – VLAN (CE-VLAN field must be populated)
CEVLAN (Customer Edge Virtual Local Area Network)	VLAN ID (If RUID is VLAN Based Port)
LREF (Level of Service Reference)	1 (default)
LACT (Level of Service Activity Indicator)	N, C or D
SPEC	VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT
PPCOS	Required for SPEC VPEVCRT only
BDW (CIR Bandwidth)	##M (EX: 20M) (Total EVC CIR bandwidth cannot exceed the UNI CIR value)
REMARKS	Any additional information

New NNI/ UNI Port – ACTL/POP/Cell Site to FIDIUM Switched Ethernet	
ASR Field/Form	ASR Field Entry Value
ICASR Screen	
REQTYP	SD
RTR (Response Type Request)	S (DLR to be issued) D or F (No DLR will be issued)
CNO (Case Number)	FIDIUM provided quote ID
SEI (Switched Ethernet Indicator)	Y
PIU (Percentage Interstate Usage)	100
QTY	0000001
BAN	N : New BAN Request E : Existing BAN The BAN you want to Bill : (EX:123 N25-1000)
ACTL	ACTL CLLI assigned to customer POP/Cell Site
SPEC	VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT
REMARKS	Include handoff/interface, if Jumbo Frames required. Wireless Backhaul if applicable
ICADM Screen	
ACNA	
VTA (ASR – Bill Section) (Variable Term Agreement)	12, 36, 48, 60 & 84 (Please also check your MSA for valid VTAs)
FUSF (Federal Universal Service Fee)	E = Exempt N = Non-Exempt
ICES Screen	
NC	See 'Code' Section
NCI	NCI at ACTL/POP/Cell Site – See 'Code' Section
SECNCI	NCI at CO – See 'Code' Section

New UNI Port – End User to Switched Ethernet	
ASR Field/Form	ASR Field Entry Value
ICASR Screen	
REQTYP	ED
RTR (Response Type request)	S (DLR to be issued) D or F (No DLR will be issued)
CNO (Case Number)	FIDIUM provided quote ID
QSA (Quantity Service Address)	01
EVCI	B (for combo ASR)
SEI (Switched Ethernet Indicator)	Y
PIU (Percentage Interstate Usage)	100
QTY	0000001
BAN	N : New BAN Request E : Existing BAN The BAN you want to Bill : (EX:123 N25-1000)
SPEC	VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT
REMARKS	Include handoff/interface, if Jumbo Frames required. Wireless Backhaul if applicable
ICADM Screen	
ACNA	
VTA (ASR – Bill Section)	Format = NN

ASR Field/Form	ASR Field Entry Value
(Variable Term Agreement)	NN = contract term in months (12, 24, 36, 48, 60)
FUSF (Federal Universal Service Fee)	E = Exempt N = Non-Exempt
ICES Screen	
NC	See 'Code' Section
NCI	NCI at ACTL/POP/Cell Site – See 'Code' Section
SECNCI	NCI at CO – See 'Code' Section
ICSAP Screen	
EU Name	End User Customer Name
SANO, SASN, etc.	End User Address
JS	D (DEMARC)
AAI	Any additional information for installation
LCON, ACTEL, and Email	Name, Tel # and Email to contact for Site Visit

Standalone EVC Ordering Details

Only one EVC is supported per ASR EVC request.
Service Type: Standalone EVC

New EVC Request

EVC - SAMPLE	
ASR FIELD	VALUE
ICASR Screen	
REQTYP	SD
DDD	Same as UNI ASR
RTR (Response Type Request)	F only
EVC I	A
PIU (Percentage Interstate Usage)	100
QTY	0000001
BAN	BAN used on UNI ASR
REMARKS	Any additional information
ICADM Screen	
ACNA	
VTA (ASR – Bill Section) (Variable Term Agreement)	12, 24, 36, 60 & 84
FUSF (Federal Universal Service Fee)	E = Exempt N = Non-Exempt
ICEVC Screen	
EVCNUM (Ethernet Virtual Connection Reference Number)	EVC Reference Number (Provided by customer)
NC (Network Channel)	VLP- point- to-point
NUT (Number of Terminations)	Quantity of EVC UNI terminations on the ASR No more than 02 Valid entries: 02
UREF (UNI Reference Number)	UNI Reference Number NOTE: The total number of UREFs must equal the value specified in the Number of UNI Terminations (NUT) = 02
UACT (UNI Activity Indicator)	UNI Activity Indicator (N, C, or D)
NCI (Network Channel Interface)	02VLN.A2 – Port combination tagged and untagged 02VLN.V – VLAN (CE-VLAN field must be populated)
EVSCP (Ethernet Virtual Connection Switch Point)	IPAG Switch CLLI of the RUID
RUID (Related UNI Identifier)	UNI Port Circuit ID
CEVLAN (Customer Edge Virtual Local Area Network)	VLAN ID (0002 – 4090)
LREF (Level of Service Reference)	1 (default)
LACT (Level of Service Activity Indicator)	N, C or D
SPEC	VPEVCBE, VPEVC EX, VPEVCCR, VPEVCRT
PPCOS	Required for SPEC VPEVCRT only
BDW (CIR Bandwidth)	xxM (EX: 20M) (Total EVC CIR bandwidth cannot exceed the UNI CIR value)

EVC Disconnect

EVC – DISCONNECT EXAMPLE	
ASR FIELD	VALUE
ICASR SCREEN	
ACT	D
REQTYP	SD
EVCI (EVC Indicator)	A
RTR (Response Type Request)	F only (DLR is not available for an EVC)
QTY	0000001
BAN	BAN EVC was established
ICEVC Screen	
EVCID	EVC Circuit ID to be disconnected
EVCNUM (Ethernet Virtual Connection Reference Number)	EVC Reference Number (Provided by customer)
NC (Network Channel)	VLP- point-to-point
REMARKS	Any additional information

EVC Administrative Section

Form	Fields applicable for EVC Connections
ICASR	ACT = N, C, D or R REQTYP = SD EVCI – Ethernet Virtual Connection Indicator = A

EVC Detail Section

EVC NUM – Ethernet Virtual Connection Reference Number
NC – Network Channel (**VLP-**) (see EVC NC Options chart)
EVCID – Ethernet Virtual Connection Identifier (**EVC Circuit ID - ACT C, D, R**)
NUT – Number of Terminations

EVC- UNI Mapping Detail Section

UREF – User Network Interface (UNI) Reference Number
UACT – User Network Interface (UNI) Activity Indicator (N, C, or D)
NCI – Network Channel Interface (02VLN.A2 or 02VLN.V)
EVCSP – Ethernet Virtual Connection Switch Point (equipment CLLI)
CE-VLAN – Customer Edge Virtual Local Area Network

- **Permissible CEVLAN range is 0002 - 4090**

RUID – Related UNI Identifier (Circuit ID of UNI where EVC terminates)
SPEC - Service and Product Enhancement Code (Specifies the CoS; See SPEC code chart)
BDW – Bandwidth (5Mbps to 1000Mbps; EVC CIR in 1Mbps increments)

Disconnect NNI/UNI Port Configuration:

NNI/UNI Port Disconnect	
Prior to submitting a UNI port disconnect ASR, all associated EVC circuits must be disconnected first.	
ASR Field/Form	ASR Field Entry Value
ICASR Screen	
REQTYP	SD or ED
RTR (Response Type Request)	S (DLR to be issued) D or F (No DLR will be issued)
ACT	D (Disconnect)
ECCKT	Provide existing Circuit ID

Switched Ethernet Service Change Orders

The following scenarios can be done on a change order (ACT=C)

- VLAN or NNI change on EVC done as a hot cut. The words “Hot Cut” must be in remarks. Please use the FDT field and include a conference bridge and time for cut. If a cut is scheduled for after normal business hours the ALBR field is also required.
- Upgrade/downgrade if no equipment changes
- Inside move same address/demarc move
- Since a combo order can't be used on a change order, the RPON field is required for both the UNI and EVC orders. The EVC PON may be JEP'D if the RPON field is not populated.
- The interval for a change order is 20 business days

Change NNI/UNI Port Configuration:

NNI/UNI CIR Change	
ASR Field/Form	ASR Field Entry Value
ICASR Screen	
REQTYP	SD or ED
RTR (Response Type Request)	S (DLR to be issued) D or F (No DLR will be issued)
ACT	C (change)
BAN	E
ECCKT	Provide existing Circuit ID
SPEC	
RPON	EVC PON
REMARKS	Changes being made
ICSES Screen	
NC	Upgrade/downgrade CIR Speed change NC code
NCI	See 'Code' Section
SECNCI	See 'Code' Section
ICSAP Screen	
EU Name	End User Customer Name
SANO, SASN, etc.	End User Address
JS	D (DEMARC)
LCON, ACTEL, and Email	Name, Tel # and Email to contact for Site Visit

EVC Change Order

Bandwidth change

EVC – Change EXAMPLE	
ASR FIELD	VALUE
ICASR SCREEN	
ACT	C
REQTYP	SD
EVCI (EVC Indicator)	A
RTR (Response Type Request)	F only
QTY	0000001
BAN	E
SPEC	VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT
RPON	UNI PON
Remarks	Changes being made
ICEVC Screen	
Ethernet Virtual Connection Detail Section	
EVCNUM	0001
NC	VLP-
EVCID	EVC Circuit ID to be changed
NUT	2
UNI Mapping Detail Section 1st Termination	
UREF	01
UACT	C
NCI	current
RUID	UNI or NNI Circuit ID
CE-VLAN	If applicable
LREF	1
LOSACT	C
SPEC	VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT
PPCOS	Required for SPEC VPEVCRT only
BDW	New Bandwidth (must have a M or G) ex: 20M
UNI Mapping Detail Section 2nd Termination	
UREF	02
UACT	C
NCI	current
RUID	UNI or NNI Circuit ID
CE-VLAN	If applicable
LREF	1
LOSACT	C
SPEC	VPEVCBE, VPEVCEX, VPEVCCR, VPEVCRT
PPCOS	Required for SPEC VPEVCRT only
BDW	New Bandwidth (must have a M or G) ex: 20M



On a bandwidth change for an EVC circuit, the UNI is also required for billing purposes.