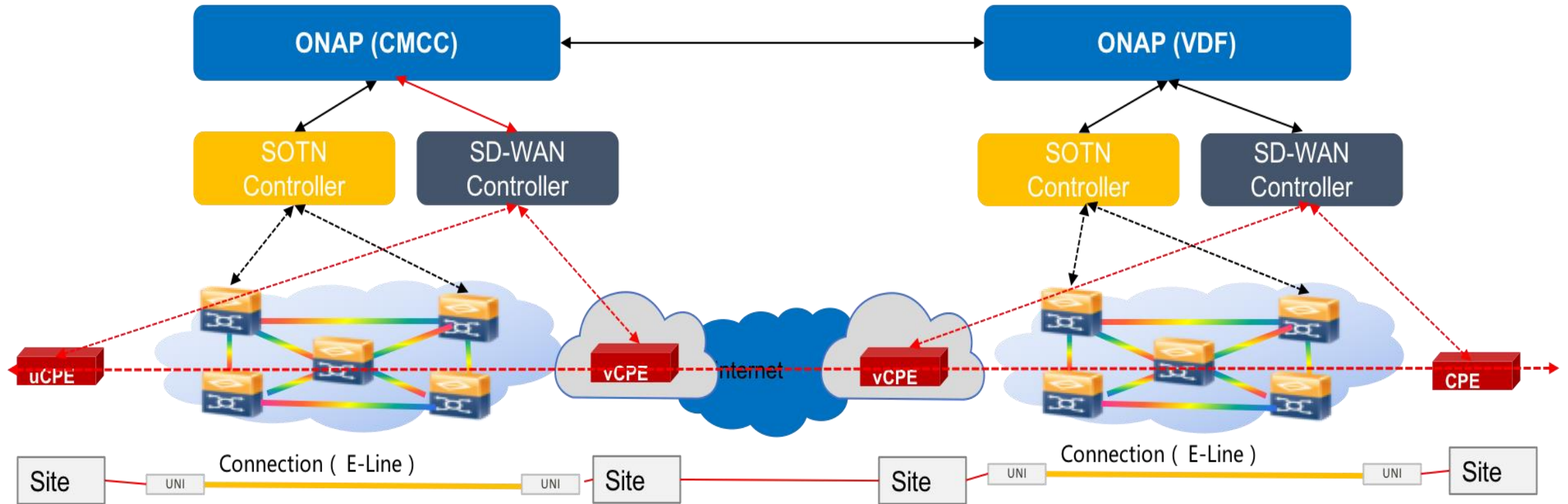# CCVPN Use Case Extension
E-LAN Service (EP-LAN, EVP-LAN)

Davide Cherubini – Emmanuel Sarris – Razanne Abu-Aisheh

Vodafone

CCVPN Use Case for Casablanca

Service Creation

Option 1 – Portal Service Decomposition

Portal

SERVICE DECOMPOSITION

Multiple Service Orders = 641x(# UNIs) + 641 ACCESS E-LAN + 641 ACCESS E-LINE + …

Multiple SERVICE INSTANCES = # UNIs + ACCESS E-LAN + ACCESS E-LINE + …

Multiple SERVICE INSTANCES = ACCESS E-LINE + UNI + …

External API

SDC
A&AI
SO
SDNC

641 UNI

641 ACCESS E-LINE

External API

SO
SDC
SDNC
A&AI

3rd party SDNC

3rd plsarty SDNC

NID
UNI

NID
UNI

Operator 1 Network

Operator 2 Network

NID
UNI

CCVPN Ph1

Operator 1 Mp2Mp OVC

ENNI

Operator 2 p2p OVC

Access E-LAN (Multiple UNIs)

Access E-line

SOAM: Operator 1 ME (MEG level 2)

SOAM: Operator 2 ME (MEG level 2)

End-to-End EP-LAN Connectivity Service (UNI A, UNI B, UNI C)

SOAM: EVC ME (MEG level 4) – Service Provider

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ONAP
OPEN NETWORK AUTOMATION PLATFORM

Option 1 – Portal Service Decomposition

Assumes:

- The Portal makes separate multiple Service Orders via TMF 641, with 1 service orderItem for each of the services that make up EP-LAN Service
  (Note -The UUI in Phase 1 made separate calls to SO, i.e. did decomposition but without Service Orders)

- To remove the EP-LAN Service fully would involve the Portal making multiple separate Service Orders with one orderItem, each with an action of 'delete' (i.e. there is no E2E Service Instance that corresponds to the full EP-LAN Service).

- Service Instance relationships would need to be maintained in A&AI to relate to the one EP-LAN.
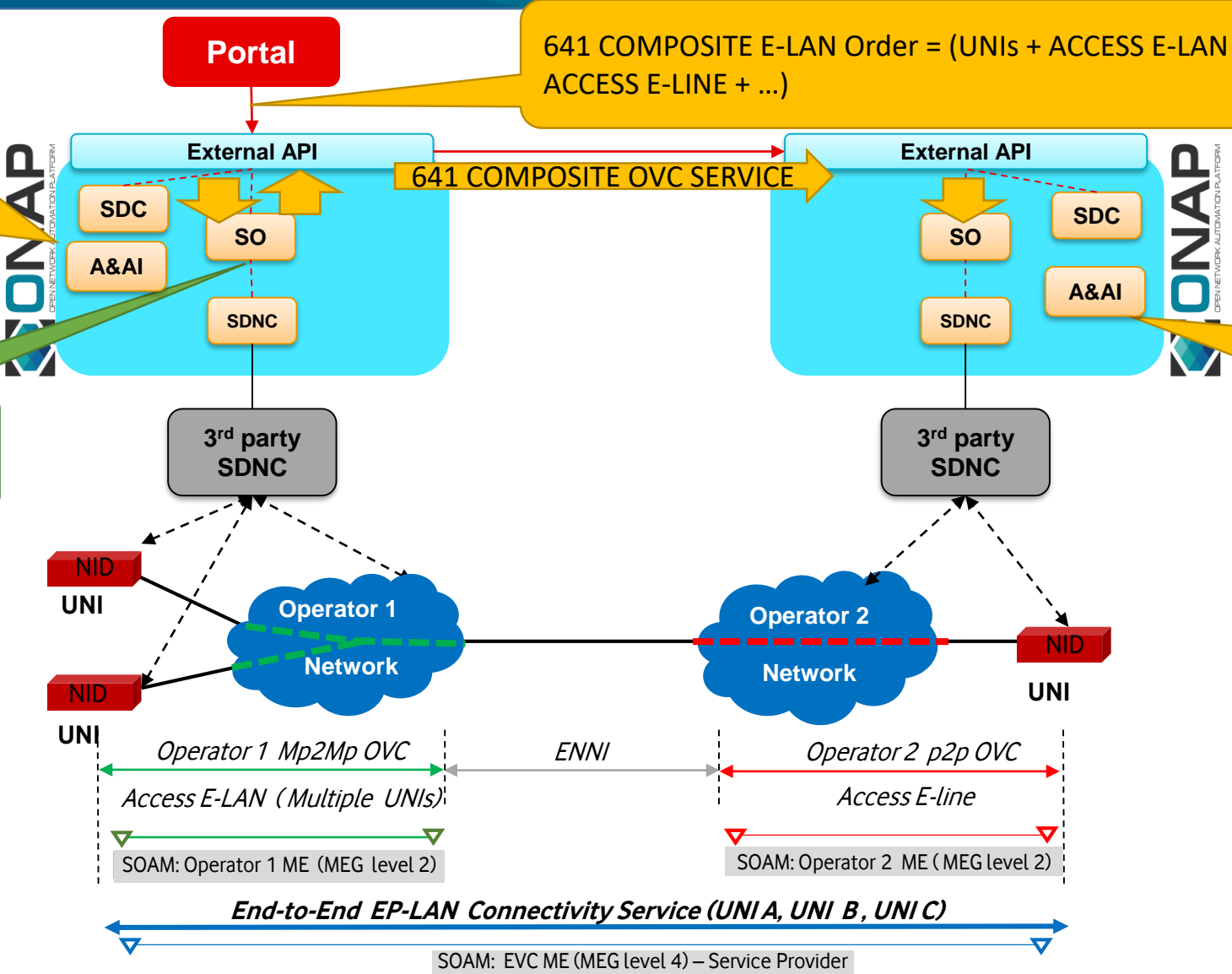
CCVPN Ph1

Option 2 – SO Service Decomposition

Portal

641 COMPOSITE E-LAN Order = (UNIs + ACCESS E-LAN + ACCESS E-LINE + ...)

COMPOSITE E2E SERVICE INSTANCE for EP-LAN: (UNIs + ACCESS E-LAN+ACCESS E-LINE + ...)

External API

SDC
A&AI
SO
SDNC

641 COMPOSITE OVC SERVICE

External API

SO
SDC
A&AI
SDNC

COMPOSITE OVC SERVICE INSTANCE: (UNI + ACCESS E-LINE + ...)

SERVICE DECOMPOSITION

3rd party SDNC

3rd party SDNC

NID
UNI
NID
UNI

Operator 1 Network

Operator 2 Network

NID
UNI
NID
UNI

IDEAL

Operator 1 Mp2Mp OVC
ENNI
Operator 2 p2p OVC

Access E-LAN (Multiple UNIs)
Access E-line

SOAM: Operator 1 ME (MEG level 2)
SOAM: Operator 2 ME (MEG level 2)

End-to-End EP-LAN Connectivity Service (UNI A, UNI B , UNI C)

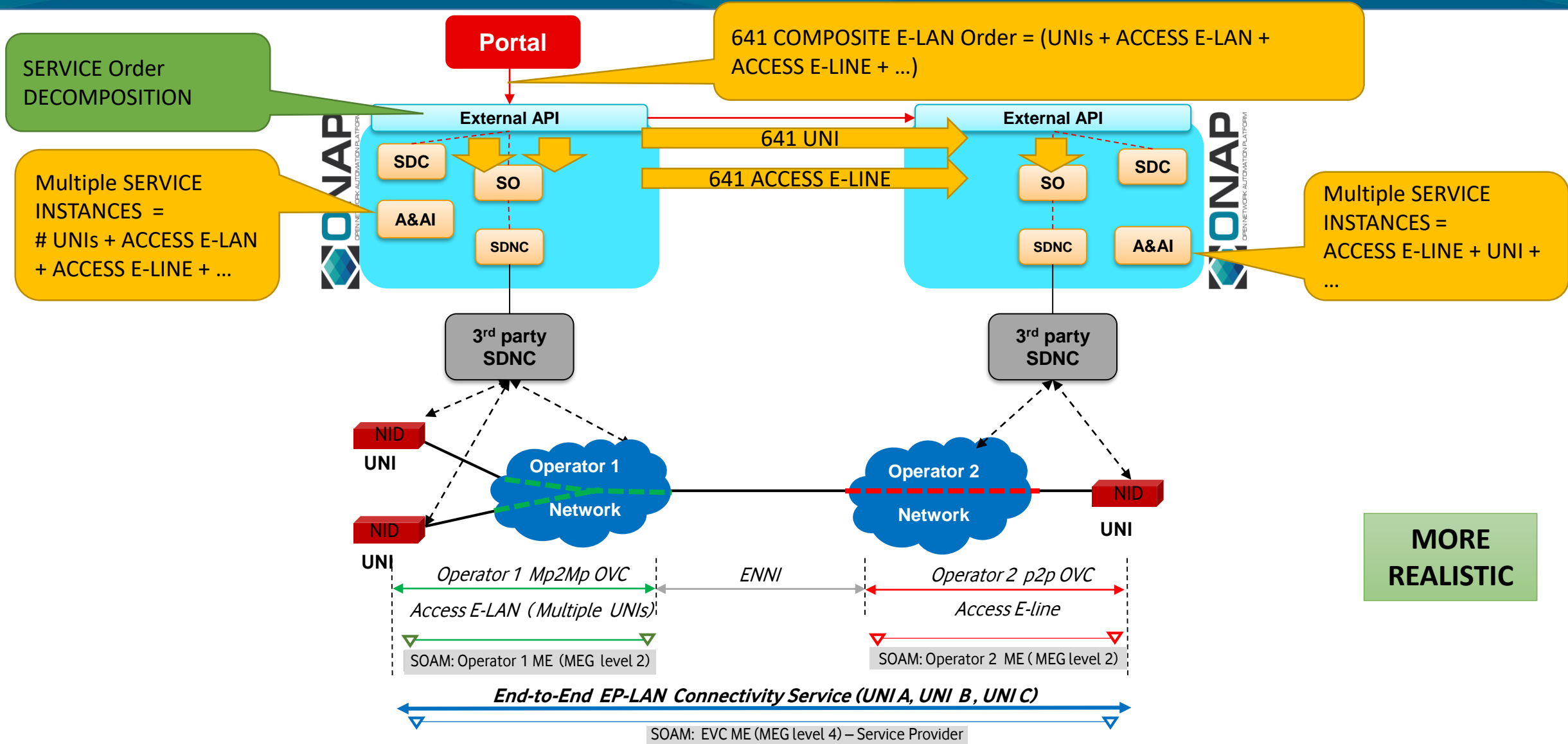SOAM: EVC ME (MEG level 4) – Service Provider

Option 2 – SO Service Decomposition

Assumes:

- The Portal makes a single Service Order via TMF 641, with one service orderItem for the composite EP-LAN Service.

- SDC can support Composite Services creation. SO can decompose and delegate the nested Services such as Access E-Line.

- Parameters for all services can be passed as one composite orderItem to External API. Then passed to SO as one 'Create E2EServiceInstance' request. SO can then Create the connectivity services (UNIs, Access E-LAN, Access E-Line, ENNIs …) from one parent Composite Service Specification

<div style="text-align: right;">

IDEAL

</div>

Option 3 – External API Service Decomposition

Portal

SERVICE Order DECOMPOSITION

641 COMPOSITE E-LAN Order = (UNIs + ACCESS E-LAN + ACCESS E-LINE + ...)

External API

641 UNI

641 ACCESS E-LINE

External API

Multiple SERVICE INSTANCES =
UNIs + ACCESS E-LAN + ACCESS E-LINE + ...

Multiple SERVICE INSTANCES =
ACCESS E-LINE + UNI + ...

SDC
SO
A&AI
SDNC

SDC
SO
SDNC
A&AI

3rd party SDNC

3rd party SDNC

NID
UNI

Operator 1 Network

Operator 2 Network

NID
UNI

NID
UNI

Operator 1 Mp2Mp OVC

ENNI

Operator 2 p2p OVC

Access E-LAN (Multiple UNIs)

Access E-line

SOAM: Operator 1 ME (MEG level 2)

SOAM: Operator 2 ME (MEG level 2)

End-to-End EP-LAN Connectivity Service (UNI A, UNI B, UNI C)

SOAM: EVC ME (MEG level 4) – Service Provider

MORE REALISTIC

Option 3 – External API Service Decomposition

Assumes:

- The Portal makes one Service Order via TMF 641, with multiple service orderItem(s) for each of the services that make up EP-LAN Service

- External API framework then coordinates with SO for each orderItem

- To remove the EP-LAN Service fully would involve the Portal making one Service Order with multiple orderItem(s), each with an action of 'delete' (i.e., there is no E2E Service Instance that corresponds to the full EP-LAN Service. Service Instance relationships would need to be maintained in A&AI to relate to the one EP-LAN)
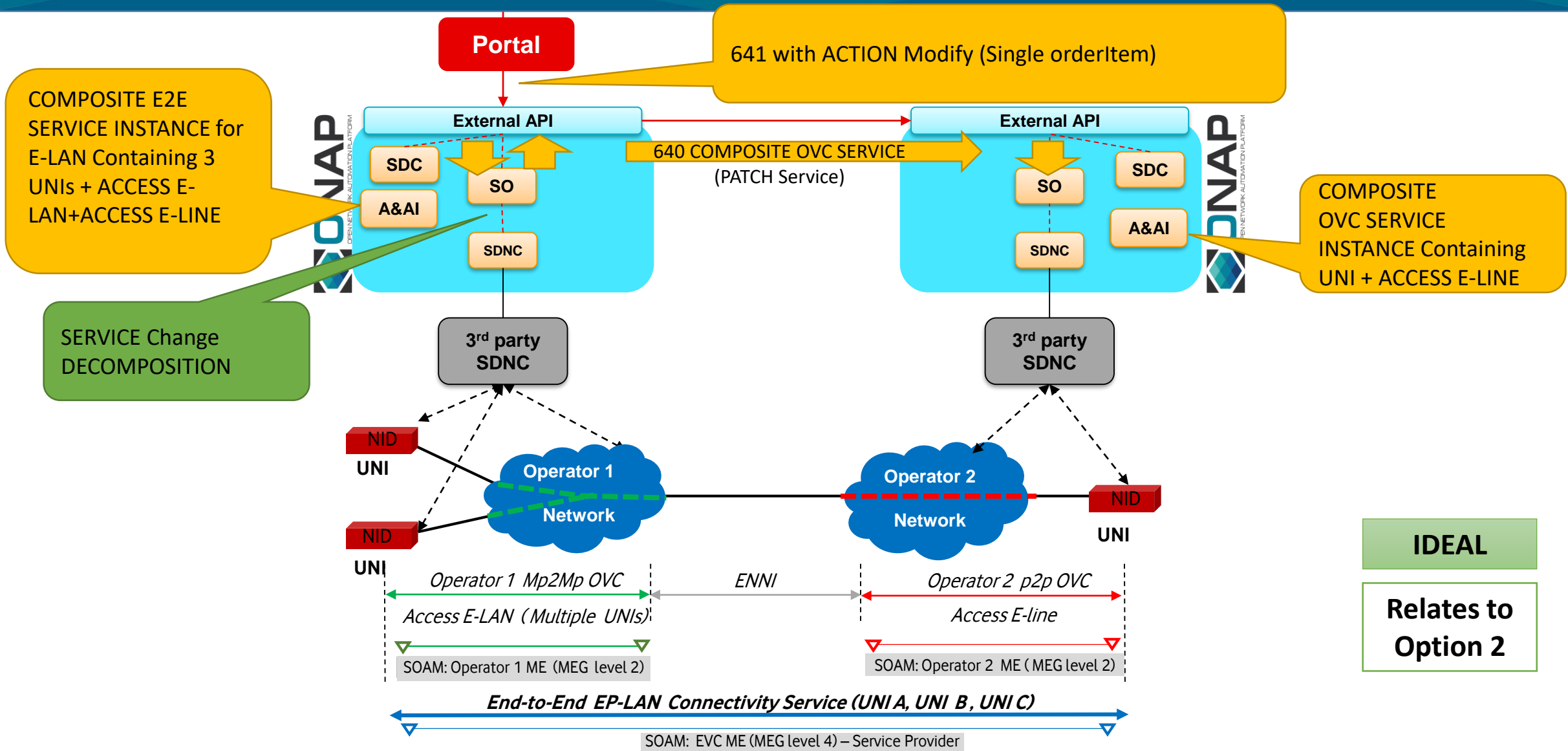
MORE REALISTIC
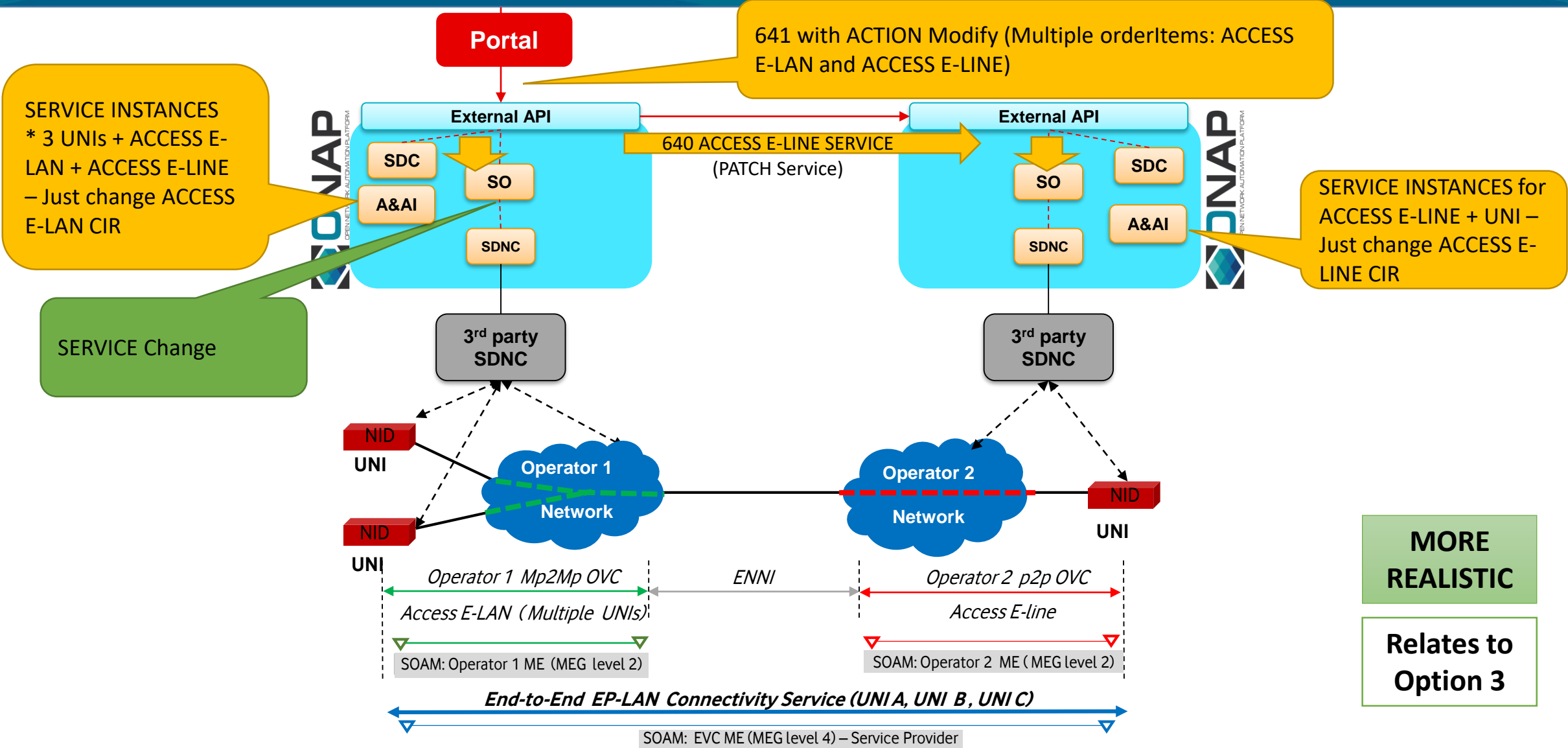
Option A SO Service Change Decomposition

Option A SO Service Change Decomposition

Assumes:

- SDC models LCM Operation/Interfaces for modifications allowed on a Service such as AdjustBandwidth so that the modification capability can be exposed through the Service Catalog

- SO offers Service Modification API and associated workflows to interact with SDN-C, A&AI & ExtAPI to make the required service adjustments

IDEAL

Option B SO Service Change

Portal

641 with ACTION Modify (Multiple orderItems: ACCESS E-LAN and ACCESS E-LINE)

SERVICE INSTANCES * 3 UNIs + ACCESS E-LAN + ACCESS E-LINE – Just change ACCESS E-LAN CIR

SERVICE INSTANCES for ACCESS E-LINE + UNI – Just change ACCESS E-LINE CIR

External API

External API

640 ACCESS E-LINE SERVICE
(PATCH Service)

SDC

SO

A&AI

SDNC

SDC

SO

A&AI

SDNC

SERVICE Change

3rd party SDNC

3rd party SDNC

NID

UNI

NID

UNI

Operator 1 Network

Operator 2 Network

NID

UNI

Operator 1 Mp2Mp OVC

ENNI

Operator 2 p2p OVC

Access E-LAN (Multiple UNIs)

Access E-line

SOAM: Operator 1 ME (MEG level 2)

SOAM: Operator 2 ME (MEG level 2)

End-to-End EP-LAN Connectivity Service (UNI A, UNI B, UNI C)

SOAM: EVC ME (MEG level 4) – Service Provider

MORE REALISTIC

Relates to Option 3

Option B SO Service Change

Assumes:

- Instead of a Service Change, External API will use SO to recreate the Service using SO Update E2EServiceInstance API

- This assumes that External API can retrieve all existing Service Characteristics of the Service Instance from A&AI to use in the recreation of the Service plus with the modified CIR Characteristic.

- Service Change for the full EP-LAN has to be made separately to its composite ACCESS E-LAN & E-LINE Services
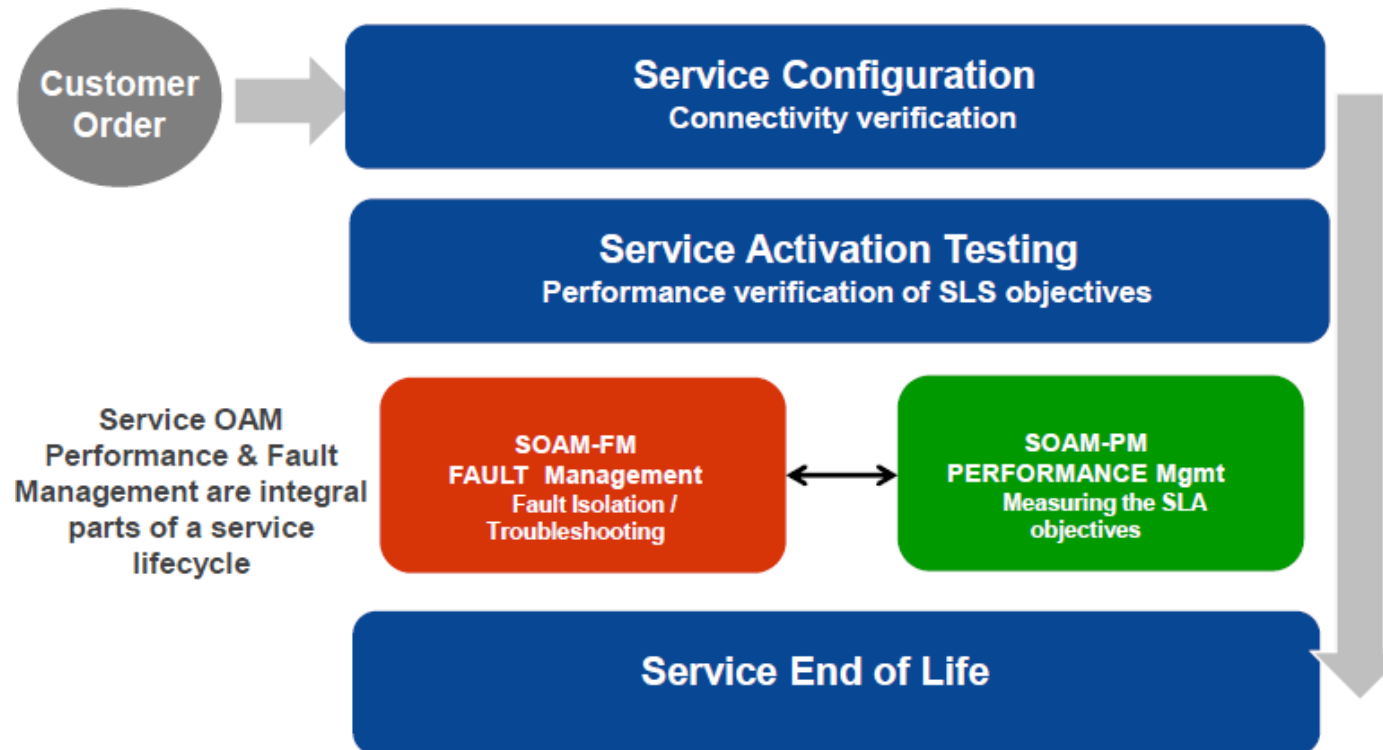
MORE REALISTIC

Service OAM

SOAM

- Service OAMs (Fault & Performance Management) are important to guarantee the SLA objectives
- Initial focus is on SOAM-PM ((EVC and OVC PM metrics)

CCVPN – E-LAN (EP-LAN, EVPLAN) Service and Impact for Dublin

*feature proposed for Dublin release

FEATURE	IMPACTED PROJECTS	IMPACT LEVEL	PRIORITY	NOTES
Information Model	Modelling		HIGH	Extend CCVPN IM for E-LAN (Access E-Line/ Access E-LAN)
Service Order & Activation/ Configuration	External API (SO) (SDC) (A&AI)		HIGH	API extension for E-LAN service creation (Access E-Line/ Access E-LAN)
Direct Service Modification- (existing service) *	External API (SDC) (SO)		HIGH	Orange contribution – change 'service' API Inter-Carrier change bandwidth /elastic bandwidth for E-LAN (Access E-line, Access E-LAN)
Service Catalog Notification*	External API (SDC)		MEDIUM	Notify to other SP that the Service has been created in the Service Catalog
PM modelling in Service Catalog	Modelling DCAE (?) SDC (?)		MEDIUM	Model SOAM in Service Catalog for E-LAN (Access E-line, Access E-LAN)