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NICC Document

Active Line Access:
ALA NNI Specification

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Contents

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Foreword

This NICC Document (ND) has been produced by the NICC TSG Ethernet Access Working Group.

Introduction

Active Line Access provides a network solution to enable Next Generation Access (NGA) networks to provide connectivity between residential and business consumers and their Service Providers in an open and flexible way. It provides a technology agnostic connectivity solution, being applicable to DSL, PON and also Active Ethernet access networks. It provides a solution that allows a tier one network provider to offer logically unbundled access solutions and it can also be used by a small community network operator as an industry standard interconnect to allow their community to connect to any number of Service Providers.

ALA has been defined by NICC to satisfy requirements from Ofcom and NGN UK and the full set of ALA requirements are described in [2].

ALA is fully defined in the following documents that have been published by NICC.

- This Architecture document [3]
- The ALA Service definition [4]
- The ALA UNI definition [5]
- The ALA NNI definition (this document)

The ALA NNI defines the physical presentation at the NNI and should be read in conjunction with the ALA Architecture and the ALA Service Definition.

1 References

For the particular version of a document applicable to this release see ND1610 [1].

NOTE: While any hyperlinks included in this clause were valid at the time of publication NICC cannot guarantee their long term validity.

1.1 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[1] NICC ND1610 Next Generation Networks, Release Definition

[2] NICC ND1642 Requirements for Ethernet Interconnect and Ethernet ALA, 2010.

[3] NICC ND1644 Architecture for Ethernet Active Line Access (ALA), 2010

[4] NICC ND1030 Ethernet ALA Service Definition, 2010.

[5] NICC ND1031 Etherenet ALA UNI, 2010

[6] IEEE 802.3 2008 Standards for Local and metropolitan Area Networks: CSMA/CD Access Method and Physical Layer Specifications

[7] IEEE Std 802.1AX 2008 IEEE Standard for Local and metropolitan area networks—Link Aggregation

1.2 Informative references

[i.1] Sr 001 262 (V2.0.0): “ETSI drafting rules Section 23:- Verbal Forms For The Expression of Provisions”

1.3 Key Words

The key words “shall”, “shall not”, “must”, “must not”, “should”, “should not”, “may”, “need not”, “can” and “cannot” in this document are to be interpreted as defined in the ETSI Drafting Rules [i.1].

2 NNI Specification for ALA

2.1 Physical Interface and Installation Topology

The ALA provider shall support an Ethernet physical interface of 1000BASE-LX (1310nm) as defined by [6] at the Ethernet NNI. The 1000Base-LX interface shall support auto-negotiation and shall support full-duplex operation.

The ALA provider may support a 10Gigabit Ethernet interface at the Ethernet NNI.

If the ALA provider supports a 10Gigabit Ethernet interface then they shall offer at least one of the following interfaces, as defined by [6]: 10GBASE-SR, 10GBASE-LR, 10GBASE-ER.

The physical equipment practice at the point of interconnect is beyond the scope of this specification.

2.2 OAM Functionality

Ethernet OAM is supported at the NNI as specified in the NICC Ethernet ALA Service Definition [4].

2.3 Ethernet Service Presentation

The Ethernet Maximum Transmit Unit (MTU) frame size shall be a minimum of 1600 bytes (excluding pre-amble and Inter-Frame Gap).

The NNI shall support a single-tagged VLAN interface and/or a double-tagged VLAN interface as defined in [3] and [4].

2.4 Resilience

The ALA Provider may protect the NNI using Ethernet Link Aggregation [7].

History

Document History		
V1.1.1	21/01/11	Approved version