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Information technology — Binding of the Natural Language Interaction Protocol (NLIP) over AMQP

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Conformance **2**
5 Notational conventions **2**
6 NLIP Mapping to AMQP **2**
6.1 Message Content Mapping 2
6.1.1 Properties.user-id 3
6.1.2 Properties.to 3
6.1.3 Properties.reply-to 3
6.1.4 Properties.correlation-id 3
6.1.5 Properties.content-type 4
6.1.6 Application-properties 4
6.1.7 Application-data 4
6.2 Multi-Format Replies 4
Annex A (informative) **Introduction to AMQP** **5**

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Foreword

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Introduction

The technology of Artificial Intelligence (AI) has the potential to be truly transformative to society. Despite some limitations, the technology is capable of many functions, including but not limited to answering questions, translating, describing and summarizing multi-modal content, generating new content, and summarizing large volumes of information. This enables the creation of intelligent agents that can use AI to analyze data and provide new services.

A much bigger boost to the social benefits of AI technology can be obtained by interaction among different intelligent agents, which may be under the control of different organizations and users. The interaction among intelligent agents can unlock new economic and social value, just like the interactions among various Internet-based services was enabled with the advent of the web browser.

For the intelligent agents to interact with each other, there is a need for a standard common protocol that is used widely among interacting agents. This Standard specifies such a protocol which would ensure interoperability among various services that use AI based technology.

ECMA-430 defines the Natural Language Interaction Protocol (NLIP).

This Standard describes the binding of NLIP protocol to a base transfer protocol of AMQP.

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Information technology — Binding of the Natural Language Interaction Protocol (NLIP) over AMQP

1 Scope

This Standard defines how the Natural Language Interaction Protocol (NLIP) should be implemented over the base transfer protocol of AMQP. The exemplar use-cases for NLIP implementation over AMQP are out of scope of this Standard.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ECMA-430, *Natural Language Interaction Protocol (NLIP)*

ECMA-434, *Security Profiles for the Natural Language Interaction Protocol (NLIP)*

IETF RFC 2119, *Key words for use in RFCs to Indicate Requirement Levels*[1)]

IETF RFC 4422, *Simple Authentication and Security Layer (SASL)*[2)]

ISO/IEC 19464:2014, *Information technology — Advanced Message Queuing Protocol (AMQP) v1.0 specification*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
NLIP
NLIP or Natural Language Interaction Protocol is the protocol defined in ECMA-430

3.2
base transfer protocol
a transfer protocol is a communication protocol between two computer systems which supports an encrypted and authenticated transfer of data across those computer systems

3.3
NLIP end-point
an NLIP end-point is a computer system or computer software that communicates using NLIP with other computer systems or computer software, on the same or another machine

3.4
AMQP connection end-point
an AMQP connection end-point is a computer system supporting the AMQP protocol that originates or receives AMQP messages, as defined in ISO/IEC 19464:2014 Section 2.4

1) https://datatracker.ietf.org/doc/rfc2119.

2) https://datatracker.ietf.org/doc/rfc4422.

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