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SERVICE INTERFACE PROFILE FOR A PUBLISH/SUBSCRIBE NOTIFICATION
CONSUMER

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AGENCY INSTRUCTION 06.02.10**SERVICE INTERFACE PROFILE FOR A PUBLISH/SUBSCRIBE NOTIFICATION
CONSUMER****0 PRELIMINARY INFORMATION****0.1 References**

- A. NCIA/GM/2012/235; Directive 1 Revision 1; dated 3 May 2013
- B. NCIARECCEN-4-22852 DIRECTIVE 01.01, Agency Policy on Management and Control of Directives, Notices, Processes, Procedures and Instructions, dated 20 May 2014
- C. NCIARECCEN-4-23297, Directive 06.00.01, Management and Control of Directives, Processes, Procedures and Instructions on Service Management, dated 03 June 2014

0.2 Purpose

This Technical Instruction (TI) provides detailed information, guidance, instructions, standards and criteria to be used when planning, programming, and designing Agency products and services. In this specific case the TI defines a Service Interface Profile (SIP) for one of NATO's Core Enterprise Services.

TIs are living documents and will be periodically reviewed, updated, and made available to Agency staff as part of the Service Strategy responsibility as Design Authority. Technical content of these instructions is the shared responsibility of SStrat/Service Engineering and Architecture Branch and the Service Line of the discipline involved.

TIs are primarily disseminated electronically¹, and will be announced through Agency Routine Orders. Hard copies or local electronic copies should be checked against the current electronic version prior to use to assure that the latest instructions are used.

0.3 Applicability

This TI applies to all elements of the Agency, in particular to all NCI Agency staff involved in development of IT services or software products. It is the responsibility of all NCI Agency Programme, Service, Product and Project Managers to ensure the implementation of this technical instruction and to incorporate its content into relevant contractual documentation for external suppliers.

1 SIP INTRODUCTION

This document is part of a Service Interface Profile (SIP) for publish/subscribe Core Enterprise Services (CES) and should be read together with the main document "*Service Interface Profile for Publish/Subscribe Services*" [NCIA AD 06.05.04.02.E]. It gives guidance on implementation of a WS-Notification-compliant *notification consumer*.

It is RECOMMENDED that each *notification consumer* implements a `Notify` operation (see Section 2.3.1). The only allowed exceptions are legacy applications that have already implemented a *notification consumer* interface using a raw notification format.

¹ [https://servicestrategy.nr.ncia/SitePages/Agency%20Directives%20\(Technical\).aspx](https://servicestrategy.nr.ncia/SitePages/Agency%20Directives%20(Technical).aspx)

2 SIP DEFINITION

2.1 Subject

This SIP focuses on the interface profile of a passive *notification consumer* subscribed to receive messages from a *notification producer* or *notification broker*. It is part of the publish/subscribe services as defined in the CES Framework [NAC AC/322(SC/1)N(2009)0015 (INV), 2009].

This SIP describes the use of the two different interfaces supported by the [OASIS WS-BaseNotification, 2006] specification, the wrapped `Notify` message format and the raw message format.

Both use a uni-directional/non-solicited protocol where the *notification producer* sends a *notification* to a *notification consumer* (*push-style notification*).

For details on the notification message see the specification in Section 3 of [OASIS WS-BaseNotification, 2006].

2.2 Service Interface

The following rules are valid for the *notification consumer* interface:

- A *notification consumer* SHOULD implement the `Notify` message format as prescribed in [OASIS WS-BaseNotification, 2006]. The only allowed exceptions are legacy applications that have already implemented a *notification consumer* interface using a raw notification format.
- A *notification consumer* MAY implement the raw notification format as prescribed in [OASIS WS-BaseNotification, 2006], but only under prior agreement between the *notification consumer* and a *notification producer* on the operation name to use.

2.3 Operations

2.3.1 Operation "Notify"

This is a one-way operation initiated from the *notification producer* that sends a `Notify` message to a *notification consumer*.

This operation does not expect any reply or error coming back from the *notification consumer*.

The *notification consumer* SHOULD implement the `notify` message and include a `notify` operation in its `portType` section of its web service definition language (WSDL), as defined in Section 3.2 of [OASIS WS-BaseNotification, 2006].

The following rule applies to the notification message and supersedes the equivalent in the specification (see Section 3.1 of [OASIS WS-BaseNotification, 2006]):

- The *notification producer* MUST include in the `Notify` message the metadata element `/s:Envelope/s:Body/wsnt:Notify/wsnt:NotificationMessage/wsnt:SubscriptionReference`

Please note that:

- The *subscription* for a `Notify` message MUST NOT contain any element `/wsnt:Subscribe/wsnt:SubscriptionPolicy/wsnt:UseRaw`

2.3.1.1 Data types

See the [OASIS WS-BaseNotification, 2006] specification.

2.3.1.2 Inputs

A single or multiple *notifications* wrapped in an `http://docs.oasis-open.org/wsn/b-2/Notify` element following the rules specified in Section 3.2 of [OASIS WS-BaseNotification, 2006].

2.3.1.3 Outputs

None.

2.3.1.4 Errors

None.

2.3.2 Raw notification

This is a one-way operation initiated from the *notification producer* that sends a raw notification message to a *notification consumer*.

The *notification producer* does not expect any reply or error coming back from the *notification consumer*.

The operation name is not specified in [OASIS WS-BaseNotification, 2006] and MUST be agreed beforehand between the parties.

The following rules apply to the notification message and supersede the equivalent in the specification Section 3.1 of [OASIS WS-BaseNotification, 2006]:

- If any metadata elements described in Section 3.1 of [OASIS WS-BaseNotification, 2006] appear in the SOAP (simple object access protocol) header with the attribute `mustUnderstand`, this attribute MUST be set to false.
- In the notification message the [W3C WS-Addressing, 2006] `Action` element SHOULD contain the URI `http://docs.oasis-open.org/wsn/b-2/NotificationConsumer/Notify` except in case of legacy applications where this is not mandatory. In this case the [W3C WS-Addressing, 2006] `Action` element MUST be agreed between the parties.

Please note that:

- The *subscription* for raw notifications MUST contain exactly one element: `/wsnt:Subscribe/wsnt:SubscriptionPolicy/wsnt:UseRaw`.

2.3.2.1 Data types

See the specification in Section 3 of [OASIS WS-BaseNotification, 2006].

2.3.2.2 Inputs

A single notification message wrapped in a SOAP body element.

2.3.2.3 Outputs

None.

2.3.2.4 Errors

None.

3 REFERENCES

[NAC AC/322(SC/1)N(2009)0015 (INV), 2009]:

North Atlantic Council/Euro-Atlantic Partnership Council Notice EAPC(AC/322-SC/1)N(2009)0015 (INV), "Core Enterprise Services Framework v1.2", NAC, Brussels, Belgium, 30 April 2009 (NATO/EAPC Unclassified).

[NCIA AD 06.05.04.02.E]:

NATO Communications and Information Agency, Agency Directive 06.05.04.02.F, "Service Interface Profile for Publish/Subscribe Services", V. de Sortis, M. Lehmann, R. Fiske, L. Schenkels, D. Gujral, NCIA, The Hague, Netherlands, to be published in 2014, (NATO Unclassified)

[OASIS WS-BaseNotification, 2006]:

Organization for the Advancement of Structured Information Standards (on-line), <http://www.oasis-open.org>, Web Services Base Notification 1.3 (WS-BaseNotification), at http://docs.oasis-open.org/wsn/wsn-ws_base_notification-1.3-spec-os.pdf, 1 October 2006, viewed 30 March 2011.

[W3C WS-Addressing, 2006]:

World Wide Consortium (on-line), <http://www.w3.org>, Web Services Addressing 1.0 – Core, at <http://www.w3.org/TR/2006/REC-ws-addr-core-20060509/>, 9 May 2006, viewed 30 March 2011.

4 ABBREVIATIONS

CES	Core Enterprise Services
OASIS	Organization for the Advancement of Structured Information Standards
SIP	Service Interface Profile
SOAP	Simple object access protocol
URI	Unified resource identifier
WSDL	Web service definition language