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# Publishing Policies using the Domain Policy DDDS Application
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Abstract

This documents contains the policy-type definition for "std" within the Domain Policy DDDS Application. Using this policy-type, service providers can announce to prospective callers which protocols (or protocol extensions) need to be supported to reach this destination network.

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## 1. Introduction

The domain policy DDDS application [2] defines a generic method how a domain owner may announce the conditions to accept incoming communications. This documents defines the policy-type for publishing a list of required standards (often protocol extensions) which a caller must support.

The policy-type chosen for this application is "std".

Rules using the the "std" policy-type refer to published and thus well-known rule-sets. These are thus "Publications" in the language of [2]. Two parties can thus independently start to support and require a standard and will interoperate without any coordination.

The examples in the Domain Policy DDDS I-D use this policy-type.

## 2. Protocol Extensions

Usually, protocols have built-in methods to signal support for extensions to the core protocol. Such negotiations happen inside the protocol and thus only after the connection has been established. If protocol extensions are not optional, but required by the receiving side, this can lead to the following unwanted effects:

- Delay: If the sender side can fall back to a different protocol or delivery path than such an unsuccessful connection attempt costs time.

- Layering problems: If the destination side requires special TLS or IPsec parameters for the connection to succeed, it cannot tell the sender side about these requirements within the protocol, as no connection can be established with having conveyed these parameters.

- Extension naming: Negotiations within the protocol usually use IANA-assigned protocol identifiers. These might not be available for experimental extensions.

The Domain Policy DDDS Application can be used to convey a list of required protocol extensions to any prospective sender out-of-band of the actual application protocol.

## 3. Naming Protocol Extensions

The Domain Policy DDDS Application uses URIs as identifiers for

individual policy rules. This is a good fit as URIs are perfect to indicate standards.

### 3.1. RFCs

According to RFC 2648 [1] IETF RFCs can be referenced by the URIs of the form "urn:ietf:rfc:<number>".

As an example, a record of

```
$ORIGIN example.com
@ IN NAPTR 10 50   "U"  "D2P+SIP:std" (
           "!^.*$!urn:ietf:rfc:3325!" . )
```

indicates that example.com expects incoming calls to use the SIP Asserted Identity standard to transmit caller ID data.

### 3.2. Internet Drafts

RFC 2648 includes an URN definition for Internet Drafts as well. These look like "urn:ietf:id:<author-wg-name-version>". RFC 2648 lists "urn:ietf:id:ietf-urn-ietf-06" as an example.

### 3.3. Other Standards

As a general rule, if the publishing organization has defined an URN schema for its documents, that should be used. If not, the location of the standard document on the official web-page can be used.

## 4. Policy-Type template

Policy Type: "std"

URI Scheme(s): Any URI is allowed.

Functional Specification: The URI acts as an identifier of
a standardization document which describes procedures
that a sender needs to follow.

Security considerations: None beyond the ones listed in

[2]
.

Intended usage: COMMON

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## 5. Examples

The examples are for the SIP [4] peering case. To build complex examples, the policy-type "fed" as described in [3] is also used.

o The carrier example.com only accepts SIP calls if a set of features is present, he might publish a policy like this:

```
$ORIGIN example.com.
;      order pref flags service       regexp           replacement
 IN NAPTR 10 10   "U" "D2P+SIP:std" "!^.*$!urn:ietf:rfc:3325!" .
 IN NAPTR 10 11   "U" "D2P+SIP:std" "!^.*$!urn:ietf:rfc:3326!" .
```

o In this example the "example.com" also allows incoming connections as long they use the SIP remote party ID header. Calls according to federation rules are preferred.

```
$ORIGIN example.com.
 IN NAPTR 10 50 (                                ; order priority
       "U" "D2P+SIP:fed"                         ; flags service
       "!^.*$!http://sipxconnect.example.org/!" . ; regexp repl
       )
 IN NAPTR 20 10 (                                ; order priority
       "U" "D2P+SIP:std"                         ; flags service
       "!^.*$!urn:ietf:id:ietf-sip-privacy-02!" . ; regexp repl
       )
```

## 6. Security Considerations

The publishing of the access policy via the DNS RR described in this draft will reduce the amount of unwanted communication attempts, as all well-meaning clients will follow them, but these records cannot substitute measures to actually enforce the published policy.

## 7. IANA Considerations

This document registers the policy-type "std" for the domain policy DDDS application.

## 8. Acknowledgements

The author would like to thank Alexander Mayrhofer and Michael Haberler for their contributions.

## 9. References

### 9.1. Normative References

[1] Moats, R., "A URN Namespace for IETF Documents", RFC 2648, August 1999.

[2] Lendl, O., "The Domain Policy DDDS Application", draft-lendl-domain-policy-ddds-00 (work in progress), February 2006.

### 9.2. Informative References

[3] Lendl, O., "A Federation based VoIP Peering Architecture", draft-lendl-speermint-federations-02 (work in progress), August 2006.

[4] Rosenberg, J., Schulzrinne, H., Camarillo, G., Johnston, A., Peterson, J., Sparks, R., Handley, M., and E. Schooler, "SIP: Session Initiation Protocol", RFC 3261, June 2002.

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