

# Pre-Delegation Testing

## Documentation DPS Test Cases

Version C

**File name:** PDT\_Documentation\_TC\_DPS.docx

**Last saved:** 2013-05-03

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## Document control

### Document information and security

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Security class	File name
External	PDT_Documentation_TC_DPS.docx

### Revisions

Date	Version	Name	Description
2013-02-05	PA1	Björn Sjöholm	Initial document
2013-02-08	PA2	Rickard Bellgrim	Review text
2013-02-11	PA3	Lennart Bonnevier	Review text
2013-03-01	PA4	Rickard Bellgrim	“key handling” to “key management” “key changes” to “key rollovers” “DNSSEC Policy Statement” to “DNSSEC Practice Statement” “KSK/ZSK keys” to “cryptographic keys”
2013-03-26	PA5	Björn Sjöholm	DocDPS05 Details added.
2013-04-08	B	Staffan Hagnell	Delivery D2 for production
2013-05-03	C	Mats Dufberg	Released

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## 1. Introduction

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### 1.1 Scope

The Pre-Delegation Testing Provider will test documents regarding DPS and verify that the requirements are fulfilled.

### 1.2 References

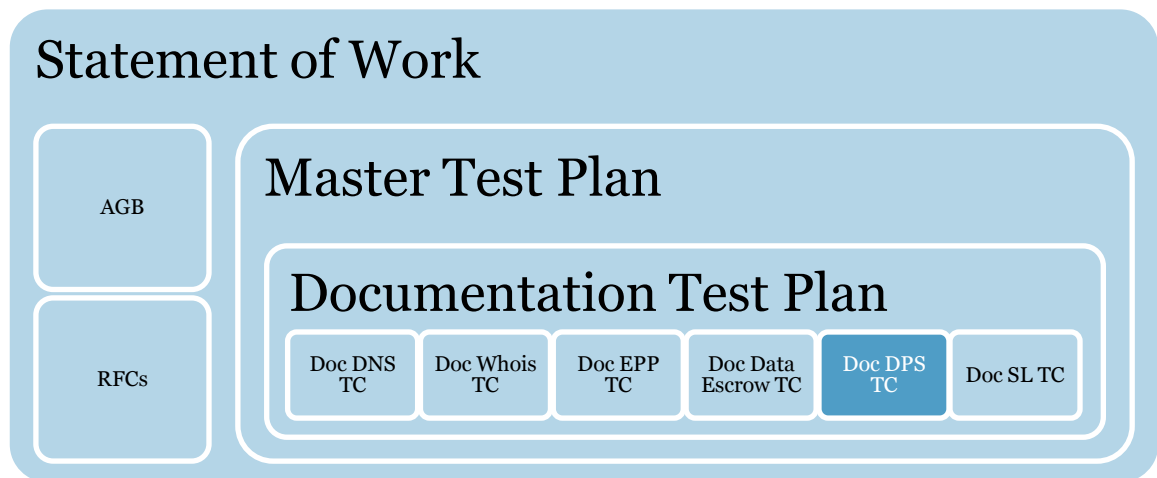
#### 1.2.1 External

- IEEE 829-2008
- ICANN gTLD Applicant Guidebook, Version 2012-06-04
- IETF A Framework for DNSSEC Policies and DNSSEC Practice Statements, RFC 6841

#### 1.2.2 Internal

- Pre-Delegation Testing, Statement of Work
- Pre-Delegation Testing, Master Test Plan
- Pre-Delegation Testing, Document Test Plan

#### 1.2.3 Document Hierarchy



### 1.3 Context

N/A

### 1.4 Notation for description

Each test case for the Documentation DPS is described in its own chapter. The test procedures are described directly in the test case.

## 2. Document DPS 01

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### 2.1 Test case identifier

DocDPS01

### 2.2 Objective

The test verifies that the self-certification documents and specifically the DNSSEC Practice Statement (DPS) is compliant with RFC 6841 and include controls for key management.

### 2.3 Inputs

The following information will be needed as input for this test case:

Id	Description	Type
gTLDAApplication	The Applicants original application	Document
gTLDDPS	The Applicant DNSSEC Practice Statement	Document

### 2.4 Outcome(s)

The documents MUST include the required information.

### 2.5 Environmental needs

N/A

### 2.6 Special procedural requirements

Suspend test if applicant documentation is missing or incomplete for most parts.

### 2.7 Intercase dependencies

This test has no intercase dependencies.

### 2.8 Ordered description of steps to be taken to execute the test case

1. Identify the documents concerning DNSSEC and the DNSSEC Practice Statement, DPS.  
Expected document is: document gTLDDPS.
2. Verify that the DPS is following the format described in the IETF A Framework for DNSSEC Policies and DNSSEC Practice Statements RFC 6841
3. Verify that that the DPS include description of critical security controls and procedures for key material storage, access and usage for its own keys Verify that the DPS include description of critical security controls and procedures for secure acceptance of registrants' public-key material.

### 3. Document DPS 02

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#### 3.1 Test case identifier

DocDPS02

#### 3.2 Objective

The test verifies that the documents and specifically the DNSSEC Practice Statement (DPS) include a demonstration of the presence of critical security controls and procedures to securely accept and publish DS resource records from second-level domain administrators. Inputs  
The following information will be needed as input for this test case:

Id	Description	Type
gTLDAApplication	The Applicants original application	Document
gTLDDPS	The Applicant DNSSEC Practice Statement	Document

#### 3.3 Outcome(s)

The documents MUST include the required information.

#### 3.4 Environmental needs

N/A

#### 3.5 Special procedural requirements

Suspend test if applicant documentation is incomplete for most parts or missing completely..

#### 3.6 Intercase dependencies

This test has no intercase dependencies.

#### 3.7 Ordered description of steps to be taken to execute the test case

1. Identify the documents concerning DNSSEC and the DNSSEC Practice Statement, DPS.  
Expected document is: document gTLDDPS.
2. Verify that the documents include a demonstration of the ability to accept and publish DS resource records from second-level domain administrators.

## 4. Document DPS 03

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### 4.1 Test case identifier

DocDPS03

### 4.2 Objective

The test verifies that the documents and specifically the DNSSEC Practice Statement (DPS) include a demonstration of the ability to support the full life cycle of cryptographic keys.

### 4.3 Inputs

The following information will be needed as input for this test case:

Id	Description	Type
gTLDAApplication	The Applicants original application	Document
gTLDDPS	The Applicant DNSSEC Practice Statement	Document

### 4.4 Outcome(s)

The self-certification documents MUST include the required information.

### 4.5 Environmental needs

N/A

### 4.6 Special procedural requirements

Suspend test if applicant documentation is incomplete for most parts or missing completely.

### 4.7 Intercase dependencies

This test has no intercase dependencies.

### 4.8 Ordered description of steps to be taken to execute the test case

1. Identify the documents concerning DNSSEC and the DNSSEC Practice Statement, DPS. Expected document is: document gTLDDPS.
2. Verify that the documents include a demonstration of the ability to support the full life cycle of cryptographic keys.

## 5. Document DPS 04

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### 5.1 Test case identifier

DocDPS04

### 5.2 Objective

The test verifies that the documents and specifically the DNSSEC Practice Statement (DPS) include a demonstration of the ability to support the full life cycle of key rollover for child domains.

### 5.3 Inputs

The following information will be needed as input for this test case:

Id	Description	Type
gTLDAApplication	The Applicants original application	Document
gTLDDPS	The Applicant DNSSEC Practice Statement	Document

### 5.4 Outcome(s)

The documents MUST include the required information.

### 5.5 Environmental needs

N/A

### 5.6 Special procedural requirements

Suspend test if applicant documentation is incomplete for most parts or missing completely.

### 5.7 Intercase dependencies

This test has no intercase dependencies.

### 5.8 Ordered description of steps to be taken to execute the test case

1. Identify the documents concerning DNSSEC and the DNSSEC Practice Statement, DPS.  
Expected document is: document gTLDDPS.
2. Verify that the documents include a demonstration of the ability to support the full life cycle of key rollover for child domains.

## 6. Document DPS 05

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### 6.1 Test case identifier

DocDPS05

### 6.2 Objective

The test verifies that the DNSSEC Practice Statement (DPS) is consistent with RFC 6841.

### 6.3 Inputs

The following information will be needed as input for this test case:

Id	Description	Type
gTLDAApplication	The Applicants original application	Document
gTLDDPS	The Applicant DNSSEC Practice Statement	Document

### 6.4 Outcome(s)

The documents MUST include the required information.

### 6.5 Environmental needs

N/A

### 6.6 Special procedural requirements

Suspend test if applicant documentation is incomplete for most parts or missing completely.

### 6.7 Intercase dependencies

This test has no intercase dependencies.

## 6.8 Ordered description of steps to be taken to execute the test case

1. Identify the DNSSEC Practice Statement, DPS.
2. Verify that the DPS complies with RFC 6841. The DPS shall as a minimum include the following components:
  - a. Specification Administration
    - i. Revision (Document identification)
  - b. Specification Administration Organization
    - i. Specification Change Procedure
    - ii. Compliance Audits
  - c. Publication and Repositories for practices and keys
    - i. Repositories
    - ii. Publication of key signing and keys (KSKs)
  - d. Operational requirements
  - e. Facility, Management and Operational Controls
  - f. Technical security controls
    - i. What keys are going to be used
    - ii. Key pair generation and installation
    - iii. Key material storage for own keys
    - iv. Key material access to its own keys
    - v. Key material usage of its own keys
    - vi. Secure acceptance of registrants' public-key material
    - vii. Key validity lifetime
  - g. Zone signing
    - i. Key lengths and algorithms
    - ii. Authenticated denial of existence (NSEC/NSEC3)
    - iii. Signature format
    - iv. Key rollover (for each present key type)
    - v. Signature lifetime and re-signing frequency
  - h. Compliance audit
    - i. Frequency
  - i. Legal matters
    - i. DPS Validity period
3. Verify that the identified DPS and the above content:
  - a. Provides a full and clear description of the security policies, controls and provisions of the Applicant.
  - b. Follows best practice for security policies, procedures and controls
  - c. Provides appropriate level of assurance
  - d. Is consistent and does not contain ambiguities

## 7. Global

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### 7.1 Glossary

The glossary is available in the Master Test Plan.

### 7.2 Document change procedures

Document change procedures are documented in the Master Test Plan.