

Complete DNS+DNSSEC Operations Transition Checklist

Abbreviations

RO = Relinquishing DNS Operator (DNSSEC Zone Operator)
 AO= Acquiring DNS Operator (DNSSEC Zone Operator Successor)
 ADMIN= Zone Administrator

AO sets up nameservers NS-AO=(K2,Z2,Z1)K2 (NS2,NS1)Z2 (*)Z2

Step	Activity	Initial	Time
1	ADMIN sends request to AO to setup new nameservers serving DNSSEC SIGNED zone. RO and AO cooperate in zone database access/transfer (e.g. enable AXFR..etc).		
2	RO and AO agree on timing of TRANSITION PERIOD. RO will not perform and routine ZSK rollovers during this period.		
3	AO extracts RO ZSK and RO NSset from RO nameserver and verifies with RO.		
4	AO generates DNSKEY RRset incorporating RO ZSK and AO KSK+ZSK (signed with AO KSK) covering agreed TRANSITION PERIOD.		
5	AO incorporates above DNSKEY RRsets and RO NSset in the SIGNED zone it generates. The SIGNED zone should duplicate the currently published zone in every way including SOA serial – except for augmented DNSKEY and NS RRsets. RRSIGs will be calculated based on AO KSK and ZSK. Corresponding AO DS record is recorded for later transmission.		

RO adds AO ZSK to DNSKEY RRset NS=(K1,Z1,Z2)K1 (NS1)Z1 (*)Z1

Step	Activity	Initial	Time
6	RO generates DNSKEY RRset incorporating VERIFIED AO ZSK and RO KSK+ZSK (signed with RO KSK) covering the agreed TRANSITION PERIOD.		
7	RO incorporates above DNSKEY RRset in current zone and publishes signed zone on its nameservers. NSset is not augmented.		

ADMIN sends add DS request to IANA root=DS1,DS2

Step	Activity	Initial	Time
8	ADMIN sends a request to IANA to add AO DS to current zone DS root entry. Note: this may return an error. Request IANA to proceed anyway.		

Wait for processing and caches to update

Step	Activity	Initial	Time
9	AO and RO wait until the changes appear in the root plus any caching and propagation delays for the zone (typically two days after change is visible in the root).		

RO adds AO NSset to zone NS=(K1,Z1,Z2)K1 (NS1,NS2)Z1 (*)Z1

Step	Activity	Initial	Time
10	RO extracts AO NSset from AO nameserver and verifies the values with AO.		
11	RO, keeping previously generated DNSKEY RRsets, adds AO NSset to its own RO NSset and publishes signed zone on its nameservers.		

ADMIN sends add NSset request to IANA root=NS1,NS2

Step	Activity	Initial	Time
12	ADMIN sends a request to IANA to add AO NSset to zone NSset root entry.		

Wait for processing and caches to update

Step	Activity	Initial	Time
13	AO and RO wait until the changes appear in the root plus any caching and propagation delays for the zone (typically two days after change is visible in the root).		

AO removes RO NSset from zone NS-AO=(K2,Z2,Z1)K2 (NS2)Z2 (*)Z2

Step	Activity	Initial	Time
14	AO removes RO NSset and publishes signed zone on its nameservers.		
15	AO requests RO to stop serving the zone		

ADMIN sends remove NSset request to IANA root=NS2

Step	Activity	Initial	Time
16	ADMIN sends a request to IANA to remove RO NSset from current zone NSset root entry.		

Wait for processing and caches to update

Step	Activity	Initial	Time
17	AO and RO wait until the changes appear in the root plus any caching and propagation delays for the zone (typically two days after change is visible in the root).		

AO returns to publishing AO only DNSKEY RRset NS-AO=(K2,Z2)K2 (NS2)Z2 (*)Z2

Step	Activity	Initial	Time
18	AO reverts to using normally generated RRsets containing only AO KSK and AO ZSK (signed by AO KSK)		

ADMIN sends remove DS request to IANA root=DS2

Step	Activity	Initial	Time
19	ADMIN sends a request to IANA to remove RO DS from current zone DSset root entry.		

Wait for processing and caches to update

Step	Activity	Initial	Time
20	AO and RO wait until the changes appear in the root plus any caching and propagation delays for the zone (typically two days after change is visible in the root).		

Transition complete

Step	Activity	Initial	Time
21	Transition of operations from RO to AO is now complete.		

Summary:

In Cache: DS1 NS1 (K1,Z1)K1 (NS1)Z1 (*)Z1

AO sets up nameservers NS-AO=(K2,Z2,Z1)K2 (NS2,NS1)Z2 (*)Z2

RO adds AO ZSK to DNSKEY RRset NS=(K1,Z1,Z2)K1 (NS1)Z1 (*)Z1

ADMIN sends add DS request to IANA root=DS1,DS2

Wait for processing and caches to update

In Cache: DS1 DS2 NS1 (K1,Z1,Z2)K1 (NS1)Z1 (*)Z1

RO adds AO NSset to zone NS=(K1,Z1,Z2)K1 (NS1,NS2)Z1 (*)Z1

ADMIN sends add NSset request to IANA root=NS1,NS2

Wait for processing and caches to update

In Cache: DS1 DS2 NS1 NS2 (K1,Z1,Z2)K1 (NS1,NS2)Z1 (*)Z1

AO removes RO NSset from zone NS-AO=(K2,Z2,Z1)K2 (NS2)Z2 (*)Z2

ADMIN sends remove NSset request to IANA root=NS2

Wait for processing and caches to update

In Cache: DS1 DS2 NS2 (K2,Z2,Z1)K2 (NS2)Z2 (*)Z2

AO returns to publishing AO only DNSKEY RRset NS-AO=(K2,Z2)K2 (NS2)Z2 (*)Z2

ADMIN sends remove DS request to IANA root=DS2

Wait for processing and caches to update

In Cache: DS2 NS2 (K2,Z2)K2 (NS2)Z2 (*)Z2

Transition complete