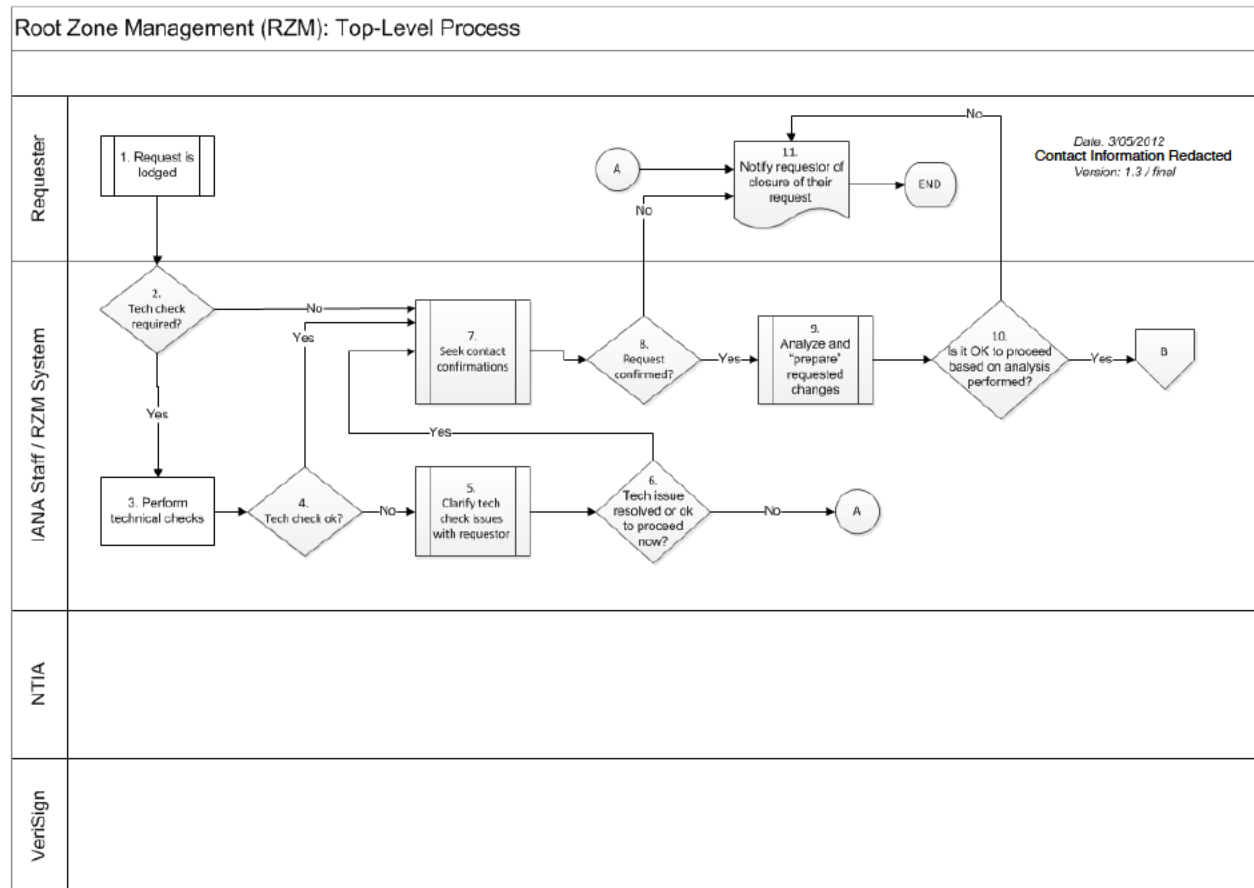


Processing Root Zone Management Change Requests

Contact Information Redacted

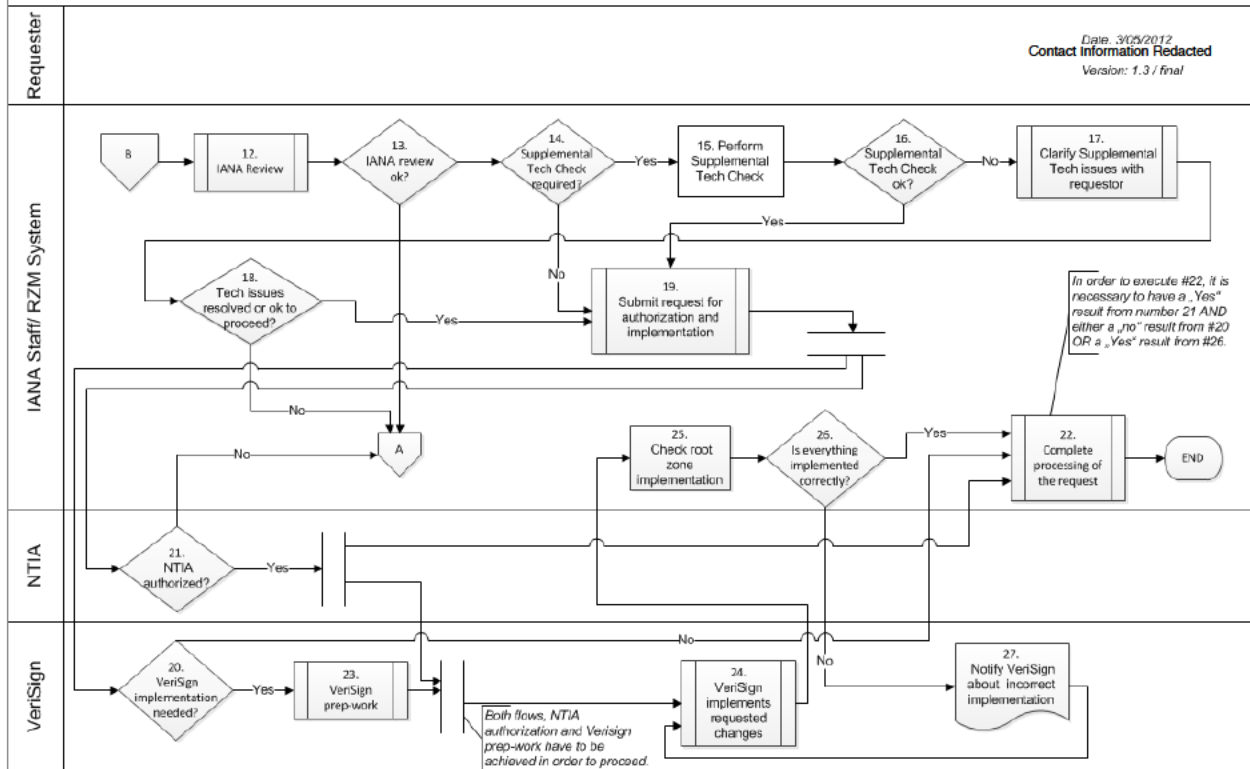
ROOT ZONE MANAGEMENT (RZM): TOP-LEVEL PROCESS

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Root Zone Management (RZM): Top-Level Process



PROCESS DESCRIPTION

Overview:

The process describes how requests for changes in the Domain Name System's Root Zone are managed. IANA works in close cooperation with the NTIA for all RZM requests, and with VeriSign for all requests where needed. Certain sub-processes of this process are within the responsibility and under control of NTIA and VeriSign, respectively. Whenever and wherever possible, individual steps of the process are carried out automatically by the "RZM system". Some elements of the process conducted automatically by the RZMS are omitted.

1.	Request is lodged
Description	Sub-process, in which a request to change the DNS root zone is transmitted by the requestor, either directly through the root zone management system (RZMS) or by email/phone/fax.
Actor	TLD manager/IANA staff/anyone

Documents	<ul style="list-style-type: none"> Request is lodged sub-process: Reference to internal link redacted. See document titled "Step 1- Request is Lodged Sub-process" RZM user interface (for TLD manager): https://rzm.iana.org/rzm RZM admin interface (for IANA staff): Reference to internal link redacted Requestor transmits request to change the DNS root zone database to IANA Root Zone Management team, either by lodging the request directly through RZM or by submitting a change request template via email to root-mgmt@icann.org or by other means (phone/fax/mail). If a request is not lodged directly through RZM, IANA staff lodges the request on behalf of the TLD manager through RZM. A reference number for the request is automatically generated supplied to the requestor. Proceed to Step 2.
Steps	

2.	Tech check required?
Description	Decision, in which it is determined, whether the requested changes require technical checks.
Actor	RZM
Documents	
Steps	<ul style="list-style-type: none"> System automatically determines whether the change request type requires technical checks. Yes, if the request includes modifications to name servers and/or ds records, then proceed to Step 3. No, if the request does not include modifications to name servers or ds records, then go to Step 7.

3.	Perform technical checks
Description	Action, in which the supplied root zone change data are checked for compliance with IANA's technical requirements.
Actor	RZM
Documents	<ul style="list-style-type: none"> Name server requirements: http://www.iana.org/procedures/nameserver-requirements.html DS records requirements: http://www.iana.org/procedures/root-dnssec-records.html RZM automatically performs the following technical checks:

Steps	<ul style="list-style-type: none"> - MinimumNameServersAndNoReservedIPsCheck - MinimumNetworkDiversityCheck - NameServerCoherencyCheck - SerialNumberCoherencyCheck - MaximumPayloadSizeCheck - DSCheck - RRSigCheck <ul style="list-style-type: none"> • Proceed to Step 4.
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4.	Tech check ok?
Description	Decision to determine whether the request passes the technical check step.
Actor	RZM
Documents	<ul style="list-style-type: none"> • Name server requirements: http://www.iana.org/procedures/nameserver-requirements.html • DS records requirements: http://www.iana.org/procedures/root-dnssec-records.html • RZM will automatically move request forward if there are no technical errors identified. • Yes, if it passes the tech check, go to Step 7. • No, if it doesn't pass the tech check, proceed to Step 5.
Steps	

5.	Clarify tech check issues with requestor
Description	Sub-process, in which RZM, and sometimes IANA staff, communicates with the requestor about technical issues which were identified during the tech check.
Actor	RZM/IANA staff
Documents	<ul style="list-style-type: none"> • Clarify tech check issues with requestor sub-process: Reference to internal link redacted. See document titled "Step 5 – Clarify Tech Issues with Requester Sub-process" • Interaction between the RZM system and the requestor to remedy the technical issues identified during the previous steps. If the requestor has questions or a more detailed explanation is required, IANA staff interacts with requestor to clarify technical issues. • Proceed to Step 6.
Steps	

6.	Tech issues resolved or ok to proceed now?
Description	Decision to determine whether the technical issues have been resolved
Actor	RZM or IANA staff
Documents	
Steps	<ul style="list-style-type: none"> • If subsequent tests show that the technical errors have been remedied, RZM will automatically move request to the next step. • If the identified errors can be bypassed after the TLD manager has provided a sufficient explanation as to why the request should be processed despite technical errors, IANA staff may choose to manually move the request to the next state (AC/TC). • Yes, if the technical errors have been remedied or a sufficient explanation has been provided, then go to Step 7. • No, if technical errors have not been remedied and no explanation has been provided by TLD managers, then proceed to Step 11.

7.	Seek contact confirmations
Description	Sub-process to obtain confirmations from contacts to implement changes.
Actor	RZM
Documents	<ul style="list-style-type: none"> • Seek contact confirmations sub-process: Reference to internal link redacted. See document titled "Step 7 – Seek Contact Confirmations Sub-process"] • RZM automatically performs the contact confirmation sub-process as described in [Reference to internal link redacted. See document titled "Step 7 – Seek Contact Confirmations Sub-process" • Proceed to Step 8.
Steps	

8.	Request confirmed?
Description	Decision to determine whether all the relevant contacts agree to the change.
Actor	RZM or IANA staff
Documents	

Steps	<ul style="list-style-type: none"> • System automatically determines whether TLD contacts agree to the change. • If the confirmations are provided in such a way that the RZM system cannot automatically evaluate the reply, IANA staff determines whether the proper confirmations have been received. • Yes, if all relevant contacts could be reached and did approve the intended change, then, proceed to Step 9. • No, if not all relevant contacts could be reached and/or some of the contacts did not approve the intended change, then, go to Step 11.
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9.	Analyze and prepare requested changes
Description	Sub-process, in which the requested changes are analyzed and prepared.
Actor	IANA staff
Documents	<ul style="list-style-type: none"> • See “analyze and prepare requested changes sub-process” Reference to internal link redacted. See document titled “Step 9 – Analyze and Prepare Requested Changes Sub-process” • Perform the sub-process to analyze and prepare the requested changes as described in Reference to internal link redacted. See document titled “Step 9 – Analyze and Prepare Requested Changes Sub-process” • Proceed to Step 10.
Steps	

10.	Is it OK to proceed based on analysis performed?
Description	Decision, whether the analysis and preparation could be performed successfully.
Actor	IANA staff
Documents	See “analyze and prepare requested changes sub-process” Reference to internal link redacted. See document titled “Step 9 – Analyze and Prepare Requested Changes Sub-process”
Steps	<ul style="list-style-type: none"> • Yes, if the analysis and preparation were successful, then go to Step 12. • No, if analysis and preparation were not successful, then proceed to Step 11.

11.	Notify requestor of closure of their request
Description	Inform requestor that the changes cannot be implemented due to deficiency.
Actor	RZM or IANA staff
Documents	

Steps	<ul style="list-style-type: none"> • Inform the requestor that their request was deficient, stating the reason for deficiency. • Mark the ticket as rejected or administrative closed and resolve the ticket. A ticket is rejected by a TLD contact. A ticket is administratively closed by IANA due to a deficiency according to the policy and procedures.
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12.	IANA Review
Description	Sub-process, in which the IANA review is performed.
Actor	IANA staff
Documents	<ul style="list-style-type: none"> • Reference to internal link redacted. See document titled "Step 12 – IANA Review Process" • Perform the IANA review sub-process as described in Reference to internal link redacted. See document titled "Step 12 – IANA Review Process" • Proceed to Step 13.
Steps	

13.	IANA review ok?
Description	Decision, whether the IANA review was passed.
Actor	IANA staff
Documents	<ul style="list-style-type: none"> • Results delivered by the IANA review sub-process • Determine whether the request passes the IANA review. • Yes, if the IANA review was passed successfully, then proceed to Step 14. • No, if the IANA review was not passed, then go to Step 11.
Steps	

14.	Supplemental tech check required?
Description	Decision, in which it is determined, whether supplemental tech check is required.
Actor	RZM
Documents	
Steps	<ul style="list-style-type: none"> • System automatically determines whether the change request type requires supplemental technical checks. • Yes, if additional tech check is required, then proceed to Step 15. • No, if no additional tech check is required, then go to Step 19.

15.	Perform supplemental tech check
Description	Action, to check the supplied root zone change data for compliance with IANA's technical requirements.
Actor	RZM
Documents	<ul style="list-style-type: none"> Name server requirements: http://www.iana.org/procedures/nameserver-requirements.html DS records requirements: http://www.iana.org/procedures/root-dnssec-records.html RZM automatically performs the following technical checks:
Steps	<ul style="list-style-type: none"> - MinimumNameServersAndNoReservedIPsCheck - MinimumNetworkDiversityCheck - NameServerCoherencyCheck - SerialNumberCoherencyCheck - MaximumPayloadSizeCheck - DSCheck - RRSigCheck <ul style="list-style-type: none"> • Proceed to Step 16.

16.	Supplemental tech check ok?
Description	Determine whether the request passes the supplemental technical check step.
Actor	RZM
Documents	<ul style="list-style-type: none"> Name server requirements: http://www.iana.org/procedures/nameserver-requirements.html DS records requirements: http://www.iana.org/procedures/root-dnssec-records.html RZM will automatically move request forward if there are no technical errors identified. Yes, if it passes the tech check, go to Step 19. No, if it doesn't pass the tech check, proceed to Step 17.
Steps	

17.	Clarify supplemental tech issues with requestor
Description	Sub-process, in which RZM, and sometimes IANA staff, communicates with the requestor about technical issues which were identified during the tech check.
Actor	RZM or IANA staff

Documents	<ul style="list-style-type: none"> • Clarify supplemental tech issues with requestor sub-process: Reference to internal link redacted. See document titled "Step 5 – Clarify Tech Issues with Requestor – Sub-process" • Interaction between the RZM system and the requestor to remedy the technical issues identified during the previous steps. If the requestor has questions or a more detailed explanation is required, IANA staff interacts with requestor to clarify technical issues. • Proceed to Step 18.
Steps	

18.	Tech issues resolved or ok to proceed?
Description	Decision, in which it is determined, whether the technical issues have been resolved.
Actor	RZM or IANA staff
Documents	
Steps	<ul style="list-style-type: none"> • If subsequent tests show that the technical errors have been remedied, RZM will automatically move request to the next step. • If the identified errors can be bypassed after the TLD manager has provided a sufficient explanation as to why the request should be processed despite technical errors, IANA staff may manually move the request to the next state. • Yes, if the technical errors have been remedied or a sufficient explanation has been provided, then proceed to Step 19. • No, if technical errors have not been remedied and no explanation has been provided by TLD managers, then go to Step 11.

19.	Submit request for authorization and implementation
Description	Sub-process, in which the request is transmitted for authorization to NTIA and for possible implementation to Verisign.
Actor	IANA staff
Documents	<p>See</p> <p>Submit Request for Authorization and Implementation Sub-Process</p>
Steps	<ul style="list-style-type: none"> • Execute sub-process as described in Submit Request for Authorization and Implementation Sub-Process to transmit request to NTIA and Verisign, seeking authorization, and implementation if the request contains any DNS root zone changes. • After execution of the sub-process, the flow continues with steps 20 and 21 in parallel.

20.	Verisign implementation needed?
Description	Determine whether the change involves changing the root zone file.
Actor	Verisign
Documents	
Steps	<ul style="list-style-type: none"> • Yes, if the change involves a root zone change (i.e. NS or DS records), go to Step 23. • No, if the change does not involve a root zone change, go to Step 22.

21.	NTIA authorized?
Description	Decision, if which it is determine, whether NTIA has authorized the changes to the DNS root zone.
Actor	NTIA
Documents	
Steps	<ul style="list-style-type: none"> • Yes, if NTIA authorizes the request, then proceed with Step 22 or 24, respectively. • If NTIA rejects the request, go to Step 11.

22.	Complete processing of the request
Description	Sub-process, in which processing of the request is completed. This sub-process has different variations, depending on whether Verisign implementation has to be executed.
Actor	RZM
Documents	<ul style="list-style-type: none"> • see Complete Processing of the Request Sub-Process • This sub-process can only be executed, after decision #21 (NTIA authorized) yielded a positive result and either after decision #26 (Is everything implemented correctly) yielded a positive result or after decision #20 (Verisign implementation needed?) yielded a negative result. • The system performs the complete processing of the request sub-process as described in Complete Processing of the Request Sub-Process.
Steps	

23.	Verisign prep work
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Description	Sub-process, in which Verisign performs its own internal preparatory work for a root zone change.
Actor	Verisign
Documents	
Steps	<ul style="list-style-type: none"> This sub-process is within the responsibility of Verisign.

24.	Verisign implements requested changes
Description	Sub-process, in which Verisign implements the authorized change into the root zone itself
Actor	Verisign
Documents	
Steps	<ul style="list-style-type: none"> This sub-process can only be executed, after decision #21 (NTIA authorized) yielded a positive result and after sub-process #23 has been executed. This sub-process is within the responsibility of Verisign. Proceed to Step 25.

25.	Check root zone implementation
Description	Action, in which the change performed in the root zone is reviewed to ensure it matches what was requested.
Actor	RZMS, IANA Staff
Documents	
Steps	<ul style="list-style-type: none"> RZMS and/or ICANN staff review the particulars of the request, and verify that the changes executed in the DNS root zone match those in the request. Proceed to Step 26.

26.	Is everything implemented correctly?
Description	Decision to determine if the change implemented by Verisign reconciles with the change requested by ICANN.
Actor	RZMS, IANA Staff
Documents	

Steps	<ul style="list-style-type: none"> • Yes, if the changes have been implemented correctly, go to Step 22. • No, if the changes have been implemented incorrectly, go to Step 27.
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27.	Notify Verisign about incorrect implementation
Description	Document, in which Verisign is informed about the implementation error.
Actor	IANA Staff
Documents	
Steps	<ul style="list-style-type: none"> • IANA staff sends notification to Verisign that they have implemented an error. • Go to Step 24.