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BIND 機能差分(9.9, 9.10, 9.11, 9.12) ver0.6

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・BIND9 Significant Features Matrix
https://kb.isc.org/article/AA-01310/0/BIND9-Significant-Features-Matrix.html

・BIND 9.11 New Features
https://www.isc.org/downloads/bind/bind-9-11-new-features/

・[Knowledge Base] BIND 9.11 Features
https://kb.isc.org/category/219/0/10/Software-Products/BIND9/Features/BIND-9.11-Features/

Feature	9.9	9.9 S (stable preview)	9.10	9.10 S	9.11	9.11 S	9.12		9.11フルリゾルバでの動作影響 (デフォルトの設定での影響の有無)	defaultの設定	関連するオプションと備考
Removed support for							dig + sigchase lwresd dlv trust anchor		-	-	
Automatic interface scanning			all	all	all	all	all		影響有	default値 yes	automatic-interface-scan boolean;
Case-sensitive name compression	9.9.5	9.9.5-S1	all	all	all	all	all		影響なし	defaultでは指定なし	#Case-sensitive name compression https://kb.isc.org/article/AA-01113/0 no-case-compress { address_match_element; ... };
Crypto: Native PKCS#11			all	all	all	all	all		影響なし		有効する際は--enable-native-pkcs11 #New Features in BIND 9.10 https://kb.isc.org/article/AA-01118/0
DDOS Mitigation: DNSCOOKIE (previously called SIT)			all (with --enable-sit); code point updated to COOKIE in 9.10.3	all	all	all	all(multiple cookie secret added)		影響有	enable	クライアント側のCookieは"send-cookie"オプションで無効にすることができる。 サーバ側は"answer-cookie"オプションでBIND 9.11.4から追加予定。 ・send-cookie yes_or_no; (Default yes). This is an option that is set globally or per-server and controls whether or not named will add a DNS COOKIE when sending queries to that server. It also controls the expectations of the behavior of a remote server that has responded previously with support for DNS Cookies. (In BIND 9.10 this was request-sit yes_or_no) ・require-server-cookie yes_or_no; (Default no). This controls how a server will respond to a COOKIE-aware client. ・nocookie-udp-size number; Use this option if you need to change the default maximum UDP response size when responding to queries from clients that don't use DNS COOKIE (noting that max-udp-size may further limit the response size too) ・cookie-secret secret-string; If you're running an anycast cluster, you can use this option to pre-set the server cookie string (instead of having it automatically generated at start-up) ・cookie-algorithm algorithm-id; In the event that you want to change the way the default server COOKIE is generated at server start-up, this option changes the algorithm that is used.
DDOS Mitigation: Faster RPZ and new triggers		all	all	all	all	all (refactored RPZ)	all (refactored RPZ)		影響なし	設定なし	#DNSRPZ performance and scaleability when using multiple RPZ zones https://kb.isc.org/article/AA-01121/0
DDOS Mitigation: Fetch limits (DDoS mitigation for recursiveservers)	9.9.8 (with --enable-fetchlimit)	9.9.6-S1 (revised 9.9.8-S1)	9.10.3 (with --enable-fetchlimit)	all	all	all	all		影響なし		fetches-per-server The default is zero.(no limit) fetch-quota-params default is 100 (fetches-per-server有効時に関連するパラメータ) fetches-per-zone The default is zero.(no limit)
DDOS Mitigation: Minimal response to 'any' queries					all	all	all		影響なし		minimal-responses default is no. minimal-any default is no. ほかにない?
DDOS Mitigation: Multiple response rate limiters for different domains		9.9.5-S1		all		all			影響なし		

DDOS Mitigation: Response rate limiting (RRL)	9.9.4 (with --enable-rrl)	all	all	all	all	all	all		影響なし	無効	rate-limit {
											all-per-second integer;
											errors-per-second integer;
											exempt-clients { address_match_element; ... }; ipv4-prefix-length integer;
											ipv6-prefix-length integer;
											log-only boolean;
											max-table-size integer;
											min-table-size integer;
											nodata-per-second integer; nxdomains-per-second integer;
											qps-scale integer;
											referrals-per-second integer; responses-per-second integer;
											slip integer;
											window integer;
											};

DDOS Mitigation: SERVFAIL caching		9.9.6-S1		all	all	all	all		影響有	default is 1 second	servfail-ttl defaultis 1 second
DDOS Mitigation: Size & ratio controls for response rate limiters		9.9.5-S1		all		all			影響なし	機能なし	
DDOS Mitigation: Serve Stale							all		影響なし	機能なし	
DNSSEC: Automatic creation of CDS, CDSKEY records					all	all	all		影響なし	機能なし	
DNSSEC: Negative trust anchors		9.9.6-S1		all	all	all	all		影響なし	設定なし	
EDNS Client-Subnet (ECS) for resolver				all		all			影響なし	機能なし	
EDNS Client-Subnet (ECS) option support for authoritative servers				exp	exp	exp	exp		影響なし	設定なし	
EDNS EXPIRE option (server side)			all (with experimental code point); EXPIRE code	all	all	all	all		影響なし	default is yes	
EDNS EXPIRE option (client side)					all	all	all		影響なし		
EDNS: Improved EDNS fallback processing			all	all	all	all	all		影響有	アルゴリズムの変更	For currently (and recently) supported versions of BIND up to and including BIND 9.9, the fallback algorithm for a 'new' authoritative server operates as follows: Query with EDNS, advertising size 4096, DO (DNSSEC OK) bit set If no response, retry with EDNS, size 512, DO bit set If no response, retry without EDNS (no DNSSEC, and buffer size maximum 512) If no response, retry the query over TCP https://deepthought.isc.org/article/AA-01219/0/Refinements-to-EDNS-fallback-behavior-can-cause-different-outcomes-in-Recursive-Servers.html
EDNS Padding (RFC 7830)				9.10.5-S1		all	all		影響なし		

GeoIP support		all	all	all	all	all	all		影響なし		options {
											geoip-directory "/path/to/geoip/database";
											};
											acl "example" {
											geoip country US;
											geoip region CA;
											geoip city "Redwood City"; /* names, etc., must be quoted if they contain spaces */
											};

Management: Detailed statistics counters		all	all	all	all	all	all		影響有		

Management: DNSTAP query/response logging		9.9.8-S5		all	all	all	all		影響なし	設定なし	configured with --enable-dnstap
											dnstap {
											auth;
											client response;
											resolver query;
											};
											
											Using DNSTAP with BIND
											https://kb.isc.org/article/AA-01342/0

Management: automatic DNSTAP file rolling		9.9.9-S1		all		all	all		影響なし	機能なし	
Management: timestamp suffix option for rolled log files and DNSTAP files				all		all	all		影響なし	機能なし	
Management: JSON statistics		all	all	all	all	all	all		影響なし	設定なし	configured with —with-libxml2 --with-libjson statistics-channels { inet 10.0.0.1 port 80 allow {my_nets;}; inet 192.168.1.1 port 8080 allow {any;}; }; Operating statistics provided by BIND statistics channels https://kb.isc.org/article/AA-01123/0/Operating-statistics-provided-by-BIND-statistics-channels.html
Management: New XML statistics schema	9.9.3	all (with --enable-newstats)	all	all	all	all	all		9.9.3から有効		Operating statistics provided by BIND statistics channels https://kb.isc.org/article/AA-01123/0
Management: Squelch duplicate named servers					all	all	all		影響有	defaultで有効	4022. [func] Stop multiple spawns of named by limiting number of processes to 1. This is done by using a lockfile and checking whether we can listen on any configured TCP interfaces. [RT #37908] 4080. [func] Completed change #4022, adding a "lock-file" option to named.conf to override the default lock file, in addition to the "named -X <filename>" command line option. Setting the lock file to "none" using either method disables the check completely. [RT #37908]
Management: Traffic size statistics (per RSSAC02)					all	all	all		影響有	default is terse	4402. [func] Collect statistics for RSSAC02v3 traffic-volume, traffic-sizes and rcode-volume reporting. [RT #41475] zone-statistics (full | terse | none | boolean); 詳細はBIND 9.11 ARMのzone-statistics参照
nxdomain-redirect option		9.9.8-S1		all	all	all	all		影響なし	設定なし	NXDOMAIN Redirection Using DLZ in BIND 9.10 and later https://kb.isc.org/article/AA-01150/0/NXDOMAIN-Redirection-Using-DLZ-in-BIND-9.10-and-later.html
Performance: EDNS TCP keepalive support (RFC 7828)				all		all	all		影響なし	機能なし	
Performance: Fast "map" format zone files			all	all	all	all	all		影響なし	default value is text	masterfile-format (map | raw | text); Using the 'map' zone file format in BIND https://kb.isc.org/article/AA-01120/0
Performance: glue cache							all		影響なし	機能なし	
Performance: Large server tuning		all	all	all	all	all	all		影響なし	設定なし	有効にする際には configured with —with-tuning=large --with-tuning=large - about using this build-time option https://kb.isc.org/article/AA-01314/0
Performance: minimal responses							all		影響なし	機能なし	
Performance: mutex locking fixes (resolver)				all	all	all	all				--with-locktype=ARG Specify mutex lock type (adaptive or standard)
Performance: Pipelined TCP queries (server side)				all 9.10.6-S2 maximum timeout increased	all	all maximum timeout increased	all maximum timeout increased		影響あり		4041. [func] TCP sockets can now be shared while connecting. (This will be used to enable client-side support of pipelined queries.) [RT #38231] 4040. [func] Added server-side support for pipelined TCP queries. Clients may continue sending queries via TCP while previous queries are being processed in parallel. (The new "keep-response-order" option allows clients to be specified for which the old behavior will still be used.) [RT #37821] Added server-side support for pipelined TCP queries. Clients may continue sending queries via TCP while previous queries are processed in parallel. Responses are sent when they are ready, not necessarily in the order in which the queries were received. To revert to the former behavior for a particular client address or range of addresses, specify the address prefix in the "keep-response-order" option. To revert to the former behavior for all clients, use "keep-response-order { any; };".
Performance: TCP connection sharing for update forwarding					all	all	all				
Performance: Separate rate limiting for startup NOTIFY messages		9.9.7-S1		all	all	all	all		影響なし		serial-query-rate (default 20) serial-query-rate, notify-rate and startup-notify-rate: how they impact zone transfers in different versions of BIND https://kb.isc.org/article/AA-01313/0
Provisioning: Catalog zones					all	all	all		影響なし		A short introduction to Catalog Zones https://kb.isc.org/article/AA-01401/0
Provisioning: Dynamic DB (DynDB) support					all	all	all		影響なし	設定なし	What is dyndb and how is it better than DLZ? https://kb.isc.org/article/AA-01420/0/What-is-dyndb-and-how-%20is-it-better-than-DLZ.html

Provisioning: in-view zone option			all	all	all	all	all		影響なし	設定なし	view external {
											match-clients { any; };
											zone example.com {
											in-view internal;
											}; };

Resolver: Cache prefetch			all	all	all	all	all		影響有	The default trigger TTL is 2	Early refresh of cache records (cache prefetch) in BIND https://kb.isc.org/article/AA-01122/0
Resolver: Prefer IPv6 when querying authoritative servers		9.9.8-S5		all	all	all	all		影響有	default is 50 milliseconds	IPv6 Changes in BIND 9.11.0, BIND 9.10.4 and BIND 9.9.9. https://kb.isc.org/article/AA-01349/0
RNDC: "showzone", "modzone", faster "delzone"		9.9.8-S5		all	all	all	all				
RNDC: Python module					all	all	all				
RNDC: read-only option		9.9.9-S1		all	all	all	all				
RNDC: zone status reporting			all	all	all	all	all				
RPZ: refactored RPZ						all	all		影響なし	機能なし	
RPZ: Response Policy Service API							all		影響なし	機能なし	