



# Open Source Used In EM9293 Modem FW Version 02.15.01.00 and 02.16.05.00 EM9293\_02.15.01.00\_FW

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```
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```
30 mtime=1338915568.810356258
30 atime=1347878487.890522778
30 ctime=1349703492.208543872
```

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```
<one line to give the  
program's name and a brief idea of what it does.>  
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```

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```
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```



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<signature of Ty Coon>, 1 April 1989  
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## 1.5 bash 3.2.57

### 1.5.1 Available under license :

From friedman@cli.com Thu May 25 12:19:06 1995  
Flags: 10  
Return-Path: friedman@cli.com  
Received: from po.cwru.edu (root@po.CWRU.Edu [129.22.4.2]) by odin.INS.CWRU.Edu with ESMTP  
(8.6.10+cwru/CWRU-2.1-ins)  
id MAA08685; Thu, 25 May 1995 12:19:05 -0400 (from friedman@cli.com for <chet@odin.INS.CWRU.Edu>)  
Received: from cli.com (cli.com [192.31.85.1]) by po.cwru.edu with SMTP (8.6.10+cwru/CWRU-2.3)  
id MAA11299; Thu, 25 May 1995 12:19:00 -0400 (from friedman@cli.com for <chet@po.cwru.edu>)  
Received: from tepui.cli.com by cli.com (4.1/SMI-4.1)  
id AA27213; Thu, 25 May 95 11:18:25 CDT  
Received: by tepui.cli.com (4.1) id AA16031; Thu, 25 May 95 11:18:23 CDT  
Message-Id: <9505251618.AA16031@tepui.cli.com>  
From: friedman@gnu.ai.mit.edu (Noah Friedman)  
To: chet@po.cwru.edu  
Subject: Bash scripts  
Reply-To: friedman@gnu.ai.mit.edu  
In-Reply-To: <chet@odin.ins.cwru.edu> Thu, 25 May 1995 11:19:59 -0400  
References: <9505251519.AA06424.SM@odin.INS.CWRU.Edu>  
Date: Thu, 25 May 95 11:18:21 CST

>Hi. I snagged



some of your bash functions from your home directory on  
>the FSF machines (naughty, I know), and I was wondering if you'd let  
>me distribute them with bash-2.0. Thanks.

Sure. I think there's a later copy in  
~ftp/friedman/shell-inits/init-4.89.tar.gz. There are also some elisp and  
es frobs in that file.

It should serve as a pretty good example of how to get carried away. :-)

From spcedt@armory.com Wed May 10 10:21:11 1995

Flags: 10

Return-Path: spcedt@armory.com

Received: from po.cwru.edu (root@po.CWRU.Edu [129.22.4.2]) by odin.INS.CWRU.Edu with ESMTP  
(8.6.10+cwru/CWRU-2.1-ins)

id KAA22876; Wed, 10 May 1995 10:21:10 -0400 (from spcedt@armory.com for <chet@odin.INS.CWRU.Edu>)

Received: from deepthought.armory.com (mmdf@deepthought.armory.com [192.122.209.42]) by po.cwru.edu with  
SMTP (8.6.10+cwru/CWRU-2.3)

id BAA16354; Wed, 10 May 1995 01:33:22 -0400 (from spcedt@armory.com for <chet@po.cwru.edu>)

From: John DuBois <spcedt@armory.com>

Date: Tue, 9 May 1995 22:33:12 -0700

In-Reply-To: Chet Ramey <chet@odin.ins.cwru.edu>

"ksh scripts" (May 9, 1:36pm)

X-Www: <http://www.armory.com/~spcedt/>

X-Mailer: Mail User's Shell (7.2.5 10/14/92)

To: chet@po.cwru.edu

Subject: Re: ksh scripts

Message-ID: <9505092233.aa13001@deepthought.armory.com>

Sure. The canonical versions are available on ftp.armory.com; you might  
want to pick up the latest versions  
before modifying them.

John

On May 9, 1:36pm, Chet Ramey wrote:

} Subject: ksh scripts  
} From odin.ins.cwru.edu!chet Tue May 9 10:39:51 1995  
} Received: from odin.INS.CWRU.Edu by deepthought.armory.com id aa22336;  
} 9 May 95 10:39 PDT  
} Received: (chet@localhost) by odin.INS.CWRU.Edu (8.6.10+cwru/CWRU-2.1-ins)  
} id NAA20487; Tue, 9 May 1995 13:39:24 -0400 (from chet)  
} Date: Tue, 9 May 1995 13:36:54 -0400  
} From: Chet Ramey <chet@odin.ins.cwru.edu>  
} To: john@armory.com  
} Subject: ksh scripts  
} Cc: chet@odin.ins.cwru.edu  
} Reply-To: chet@po.cwru.edu  
} Message-ID: <9505091736.AA20411.SM@odin.INS.CWRU.Edu>



```

} Read-Receipt-To: chet@po.CWRU.Edu
} MIME-Version: 1.0
} Content-Type: text/plain; charset=us-ascii
} Status: OR
}
} Hi. I'm the maintainer of bash (the GNU `Bourne Again shell') for
} the FSF.
}
} I picked up a tar file of ksh scripts you wrote from an anon FTP site
} a while back. I'd like your permission to include modified versions
} of some of them in
} the next major bash distribution (with proper credit
} given, of course). Is it OK if I do that?
}
} Chet Ramey
}
} --
} ``The lyf so short, the craft so long to lerne." - Chaucer
}
} Chet Ramey, Case Western Reserve University Internet: chet@po.CWRU.Edu
}-- End of excerpt from Chet Ramey
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Version 2, June 1991

```

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@c ispell-local-pdict: "ispell-dict"

@c End:

From mikel@ora.com Tue Aug 1 12:13:20 1995

Flags: 10

Return-Path: mikel@ora.com

Received: from ruby.ora.com (ruby.ora.com [198.112.208.25]) by odin.INS.CWRU.Edu with ESMTP (8.6.12+cwru/CWRU-2.1-ins)

id MAA01565; Tue, 1 Aug 1995 12:13:18 -0400 (from mikel@ora.com for <chet@odin.INS.CWRU.Edu>)

Received: (from fax@localhost) by ruby.ora.com (8.6.12/8.6.11) with UUCP id MAA23251; Tue, 1 Aug 1995



12:07:51 -0400

Received: by los.ora.com (4.1/Spike-2.1)

id AA00672; Tue, 1 Aug 95 08:57:32 EDT

Date: Tue, 1 Aug 95 08:57:32 EDT

From: mikel@ora.com (Michael Loukides)

Message-Id: <9508011257.AA00672@los.ora.com>

Subject: Re: Ksh debugger from Rosenblatt's book [for bash]

To: Chet Ramey <chet@odin.INS.CWRU.Edu>

Cc: cmarie@ora.com, cam@iinet.com.au, brosenblatt@tm.com

In-Reply-To: Chet Ramey <chet@odin.INS.CWRU.Edu>, Mon, 31 Jul 1995 16:22:48 -0400

I've modified a (modified) version of Bill Rosenblatt's ksh debugger  
to work with bash-2.0. Does ORA have any problem with me distributing

it with bash-2.0?

That's great!

Go ahead and circulate it; in fact, we should probably grab it and  
stick it in our ftp archive, and put a reference to it in the book.  
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6b.

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# 1.18 iptables 1.8.4

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## 1.19 ncurses 6.2

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This package is used for testing builds of ncurses.

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## 1.21 elfutils 0.178

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## 1.22 cryptsetup 2.3.1

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or



link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.



For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally

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## 1.23 audit 2.8.5

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2)

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## 1.29 strace 5.5

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- \* Added generation of field number constants.

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- \* Emacs mode for Protocol Buffers (editors/protobuf-mode.el).

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- \* Added Swap(), SwapElements(), and RemoveLast() to Reflection interface.

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- \* Detect whether zlib is new enough in configure script.
- \* Fixes for Solaris 10 32/64-bit confusion.

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- \* Optimize Java serialization code when writing a small message to a stream.
- \* Optimize Java serialization of strings so that UTF-8 encoding happens only once per string per serialization call.
- \* Clean up some Java warnings.
- \* Fix bug with permanent callbacks that delete themselves when run.

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- \* Fixed detection of sched\_yield on Solaris.
- \* Added atomicops for Solaris

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- \* Fixed minor IBM xLC compiler build issues
- \* Added atomicops for AIX (POWER)

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## 1.36 glib 2.62.6



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End

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## 1.37 libcap-ng 0.7.10

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## 1.38 libgcrypt 1.8.5

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## 1.39 shared-mime-info 1.1

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Activities



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```
#
# This is a Makefile stub which handles the creation of BSD shared
# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#
```

all:: image

```
real-subdirs:: Makefile
@echo " MKDIR pic"
@mkdir -p pic
```

```
BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic
```

image: \$(BSD\_LIB)

```
$(BSD_LIB): $(OBJS)
(cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
$(MV) pic/$(BSD_LIB) .
$(RM) -f ../$(BSD_LIB)
(cd ..; $(LN) $(LINK_BUILD_FLAGS) \
`echo $(my_dir) | sed -e 's;lib/;;'"/$(BSD_LIB) $(BSD_LIB))
```

```
install-shlibs install:: $(BSD_LIB)
@echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
@$(INSTALL_PROGRAM) $(BSD_LIB) \
```



```
$(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
@-$(LDCONFIG)
```

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::

```
$(RM) -f $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

clean::

```
$(RM)
```

```
-rf pic
```

```
$(RM) -f $(BSD_LIB)
```

```
$(RM) -f ../$(BSD_LIB)
```

This package was added to the e2fsprogs debian source package by  
Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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	January 25, 1999

Basic Socket Interface Extensions for IPv6

<draft-ietf-ipngwg-bsd-api-new-06.txt>

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## Abstract

The de facto standard application program interface (API) for TCP/IP applications is the "sockets" interface. Although this API was developed for Unix in the early 1980s it has also been implemented on a wide variety of non-Unix systems. TCP/IP applications written using the sockets API have in

the past enjoyed a high degree of portability and we would like the same portability with IPv6 applications. But changes are required to the sockets API to support IPv6 and this memo describes these changes. These include a new socket address structure to carry IPv6 addresses, new address conversion functions, and some new socket options. These extensions are designed to provide access to the basic IPv6 features required by TCP and UDP applications, including multicasting, while introducing a minimum of change into the system and providing complete compatibility for existing IPv4 applications. Additional extensions for advanced IPv6 features (raw sockets and access to the IPv6 extension headers) are defined in another document [4].

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## 1. Introduction

While IPv4 addresses are 32 bits long, IPv6 interfaces are identified by 128-bit addresses. The socket interface makes the size of an IP address quite visible to an application; virtually all TCP/IP applications for BSD-based systems have knowledge of the size of an IP address. Those parts of the API that expose the addresses must be changed to accommodate the larger IPv6 address size. IPv6 also introduces new features (e.g., traffic class and flowlabel), some of which must be made visible to applications via the API. This memo defines a set of extensions to the socket interface to support the larger address size and new features of IPv6.

## 2. Design Considerations

There are a number of important considerations in designing changes to this well-worn API:

- The API changes should provide both source and binary compatibility for programs written to the original API. That is, existing program binaries should continue to operate when run on a system supporting the new API. In addition, existing applications that are re-compiled and run on a system supporting the new API should continue to operate. Simply put, the API changes for IPv6 should not break existing programs. An additional mechanism



for implementations to verify this is to verify the new symbols are protected by Feature Test Macros as described in IEEE Std 1003.1. (Such Feature Test Macros are not defined by this RFC.)

- The changes to the API should be as small as possible in order to simplify the task of converting existing IPv4 applications to IPv6.
- Where possible, applications should be able to use this API to interoperate with both IPv6 and IPv4 hosts. Applications should not need to know which type of host they are communicating with.
- IPv6 addresses carried in data structures should be 64-bit aligned. This is necessary in order to obtain optimum performance on 64-bit machine architectures.

Because of the importance of providing IPv4 compatibility in the API, these extensions are explicitly designed to operate on machines that provide complete support for both IPv4 and IPv6. A subset of this API could probably be designed for operation on systems that support only IPv6. However, this is not addressed in this memo.

## 2.1 What Needs to be Changed

The socket interface API consists of a few distinct components:

- Core socket functions.

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- Address data structures.
- Name-to-address translation functions.
- Address conversion functions.

The core socket functions -- those functions that deal with such things as setting up and tearing down TCP connections, and sending and



receiving UDP packets -- were designed to be transport independent. Where protocol addresses are passed as function arguments, they are carried via opaque pointers. A protocol-specific address data structure is defined for each protocol that the socket functions support. Applications must cast pointers to these protocol-specific address structures into pointers to the generic "sockaddr" address structure when using the socket functions. These functions need not change for IPv6, but a new IPv6-specific address data structure is needed.

The "sockaddr\_in" structure is the protocol-specific data structure for IPv4. This data structure actually includes 8-octets of unused space, and it is tempting to try to use this space to adapt the sockaddr\_in structure to IPv6. Unfortunately, the sockaddr\_in structure is not large enough to hold the 16-octet IPv6 address as well as the other information (address family and port number) that is needed. So a new address data structure must be defined for IPv6.

IPv6 addresses are scoped [2] so they could be link-local, site, organization, global, or other scopes at this time undefined. To support applications that want to be able to identify a set of interfaces for a specific scope, the IPv6 sockaddr\_in structure must support a field that can be used by an implementation to identify a set of interfaces identifying the scope for an IPv6 address.

The name-to-address translation functions in the socket interface are gethostbyname() and gethostbyaddr(). These are left as is and new functions are defined to support IPv4 and IPv6. Additionally, the POSIX 1003.g draft [3] specifies a new nodename-to-address translation function which is protocol independent. This function can also be used with IPv4 and IPv6.

The address conversion functions -- inet\_ntoa() and inet\_addr() -- convert IPv4 addresses between binary and printable form. These functions are quite specific to 32-bit IPv4 addresses. We have designed two analogous functions that convert both IPv4 and IPv6 addresses, and carry an address type parameter so that they can be extended to other protocol families as well.

Finally, a few miscellaneous features are needed to support IPv6. New interfaces are needed to support the IPv6 traffic class, flow label, and hop limit header fields. New socket options are needed to control the sending and receiving of IPv6 multicast packets.

The socket interface will be enhanced in the future to provide access to other IPv6 features. These extensions are described in [4].



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## 2.2 Data Types

The data types of the structure elements given in this memo are intended to be examples, not absolute requirements. Whenever possible, data types from Draft 6.6 (March 1997) of POSIX 1003.1g are used: `uintN_t` means an unsigned integer of exactly N bits (e.g., `uint16_t`). We also assume the argument data types from 1003.1g when possible (e.g., the final argument to `setsockopt()` is a `size_t` value). Whenever buffer sizes are specified, the POSIX 1003.1 `size_t` data type is used (e.g., the two length arguments to `getnameinfo()`).

## 2.3 Headers

When function prototypes and structures are shown we show the headers that must be `#included` to cause that item to be defined.

## 2.4

### Structures

When structures are described the members shown are the ones that must appear in an implementation. Additional, nonstandard members may also be defined by an implementation. As an additional precaution nonstandard members could be verified by Feature Test Macros as described in IEEE Std 1003.1. (Such Feature Test Macros are not defined by this RFC.)

The ordering shown for the members of a structure is the recommended ordering, given alignment considerations of multibyte members, but an implementation may order the members differently.



### 3. Socket Interface

This section specifies the socket interface changes for IPv6.

#### 3.1 IPv6 Address Family and Protocol Family

A new address family name, AF\_INET6, is defined in <sys/socket.h>. The AF\_INET6 definition distinguishes between the original sockaddr\_in address data structure, and the new sockaddr\_in6 data structure.

A new protocol family name, PF\_INET6, is defined in <sys/socket.h>. Like most of the other protocol family names, this will usually be defined to have the same value as the corresponding address family name:

```
#define PF_INET6    AF_INET6
```

The PF\_INET6 is used in the first argument to the socket() function to indicate that an IPv6 socket is being created.

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#### 3.2 IPv6 Address Structure

A new in6\_addr structure holds a single IPv6 address and is defined as a result of including <netinet/in.h>:

```
struct in6_addr {
    uint8_t s6_addr[16];    /* IPv6 address */
};
```

This data structure contains an array of sixteen 8-bit elements, which make up one 128-bit IPv6 address. The IPv6 address is stored in network byte order.

The structure in6\_addr above is usually implemented with an embedded union with extra fields that force the desired alignment level in a



manner similar to BSD implementations of "struct in\_addr". Those additional implementation details are omitted here for simplicity.

An example is as follows:

```
struct in6_addr {
    union {
        uint8_t  _S6_u8[16];
        uint32_t _S6_u32[4];
        uint64_t _S6_u64[2];
    } _S6_un;
};
#define s6_addr _S6_un._S6_u8
```

### 3.3 Socket Address Structure for 4.3BSD-Based Systems

In the socket interface, a different protocol-specific data structure is defined to carry the addresses for each protocol suite. Each protocol-specific data structure is designed so it can be cast into a protocol-independent data structure -- the "sockaddr" structure. Each has a "family" field that overlays the "sa\_family" of the sockaddr data structure. This field identifies the type of the data structure.

The sockaddr\_in structure is the protocol-specific address data structure for IPv4. It is used to pass addresses between applications and the system in the socket functions. The following sockaddr\_in6 structure holds IPv6 addresses and is defined as a result of including the <netinet/in.h> header:

```
struct sockaddr_in6 {
    sa_family_t  sin6_family; /* AF_INET6 */
    in_port_t    sin6_port;   /* transport layer port # */
    uint32_t     sin6_flowinfo; /* IPv6 traffic class & flow info */
    struct in6_addr sin6_addr; /* IPv6 address */
    uint32_t     sin6_scope_id; /* set of interfaces for a scope */
};
```

This structure is designed to be compatible with the sockaddr data structure used in the 4.3BSD release.

The sin6\_family field identifies this as a sockaddr\_in6 structure. This



field overlays the `sa_family` field when the buffer is cast to a `sockaddr` data structure. The value of this field must be `AF_INET6`.

The `sin6_port` field contains the 16-bit UDP or TCP port number. This field is used in the same way as the `sin_port` field of the `sockaddr_in` structure.

The port number is stored in network byte order.

The `sin6_flowinfo` field is a 32-bit field that contains two pieces of information: the traffic class and the flow label. The contents and interpretation of this member is specified in [1]. The `sin6_flowinfo` field SHOULD be set to zero by an implementation prior to using the `sockaddr_in6` structure by an application on receive operations.

The `sin6_addr` field is a single `in6_addr` structure (defined in the previous section). This field holds one 128-bit IPv6 address. The address is stored in network byte order.

The ordering of elements in this structure is specifically designed so that when `sin6_addr` field is aligned on a 64-bit boundary, the start of the structure will also be aligned on a 64-bit boundary. This is done for optimum performance on 64-bit architectures.

The `sin6_scope_id` field is a 32-bit integer that identifies a set of interfaces as appropriate for the scope of the address carried in the `sin6_addr` field. For a link scope `sin6_addr` `sin6_scope_id` would be an interface index. For a site scope `sin6_addr`, `sin6_scope_id` would be a site identifier. The mapping of `sin6_scope_id` to an interface or set of interfaces is left to implementation and future specifications on the subject of site identifiers.

Notice that the `sockaddr_in6` structure will normally be larger than the generic `sockaddr` structure. On many existing implementations the `sizeof(struct sockaddr_in)` equals `sizeof(struct sockaddr)`, with both being 16 bytes. Any existing code that makes this assumption needs to be examined carefully when converting to IPv6.

### 3.4 Socket Address Structure for 4.4BSD-Based Systems

The 4.4BSD release includes a small, but incompatible change to the



socket interface. The "sa\_family" field of the sockaddr data structure was changed from a 16-bit value to an 8-bit value, and the space saved used to hold a length field, named "sa\_len". The sockaddr\_in6 data structure given in the previous section cannot be correctly cast into the newer sockaddr data structure. For this reason, the following alternative IPv6 address data structure is provided to be used on systems based on 4.4BSD. It is defined as a result of including the <netinet/in.h> header.

```
struct sockaddr_in6 {
    uint8_t      sin6_len;    /* length of this struct */
    sa_family_t  sin6_family; /* AF_INET6 */
    in_port_t    sin6_port;   /* transport layer port # */
    uint32_t     sin6_flowinfo; /* IPv6 flow information */
    struct in6_addr sin6_addr; /* IPv6 address */
    uint32_t     sin6_scope_id; /* set of interfaces for a scope */
};
```

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The only differences between this data structure and the 4.3BSD variant are the inclusion of the length field, and the change of the family field to a 8-bit data type.

The definitions of all the other fields are identical to the structure defined in the previous section.

Systems that provide this version of the sockaddr\_in6 data structure must also declare SIN6\_LEN as a result of including the <netinet/in.h> header. This macro allows applications to determine whether they are being built on a system that supports the 4.3BSD or 4.4BSD variants of the data structure.

### 3.5 The Socket Functions

Applications call the socket() function to create a socket descriptor that represents a communication endpoint. The arguments to the socket() function tell the system which protocol to use, and what format address structure will be used in subsequent functions. For example, to create an IPv4/TCP socket, applications make the call:



```
s = socket(PF_INET, SOCK_STREAM, 0);
```

To create an IPv4/UDP socket, applications make the call:

```
s = socket(PF_INET, SOCK_DGRAM, 0);
```

Applications may create IPv6/TCP and IPv6/UDP sockets by simply using the constant PF\_INET6

instead of PF\_INET in the first argument. For example, to create an IPv6/TCP socket, applications make the call:

```
s = socket(PF_INET6, SOCK_STREAM, 0);
```

To create an IPv6/UDP socket, applications make the call:

```
s = socket(PF_INET6, SOCK_DGRAM, 0);
```

Once the application has created a PF\_INET6 socket, it must use the sockaddr\_in6 address structure when passing addresses in to the system. The functions that the application uses to pass addresses into the system are:

```
bind()  
connect()  
sendmsg()  
sendto()
```

The system will use the sockaddr\_in6 address structure to return addresses to applications that are using PF\_INET6 sockets. The functions that return an address from the system to an application are:

```
accept()  
recvfrom()  
recvmsg()  
getpeername()  
getsockname()
```

No changes to the syntax of the socket functions are needed to support

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IPv6, since all of the "address carrying" functions use an opaque



address pointer, and carry an address length as a function argument.

### 3.6 Compatibility with IPv4 Applications

In order to support the large base of applications using the original API, system implementations must provide complete source and binary compatibility with the original API. This means that systems must continue to support PF\_INET sockets and the sockaddr\_in address structure. Applications must be able to create IPv4/TCP and IPv4/UDP sockets using the PF\_INET constant in the socket() function, as described in the previous section. Applications should be able to hold a combination of IPv4/TCP, IPv4/UDP, IPv6/TCP and IPv6/UDP sockets simultaneously within the same process.

Applications using the original API should continue to operate as they did on systems supporting only IPv4. That is, they should continue to interoperate with IPv4 nodes.

### 3.7 Compatibility with IPv4 Nodes

The

API also provides a different type of compatibility: the ability for IPv6 applications to interoperate with IPv4 applications. This feature uses the IPv4-mapped IPv6 address format defined in the IPv6 addressing architecture specification [2]. This address format allows the IPv4 address of an IPv4 node to be represented as an IPv6 address. The IPv4 address is encoded into the low-order 32 bits of the IPv6 address, and the high-order 96 bits hold the fixed prefix 0:0:0:0:FFFF. IPv4-mapped addresses are written as follows:

::FFFF:<IPv4-address>

These addresses can be generated automatically by the getipnodebyname() function when the specified host has only IPv4 addresses (as described in Section 6.1).

Applications may use PF\_INET6 sockets to open TCP connections to IPv4 nodes, or send UDP packets to IPv4 nodes, by simply encoding the destination's IPv4 address as an IPv4-mapped IPv6 address, and passing that address, within a sockaddr\_in6 structure, in the connect() or sendto() call. When applications use PF\_INET6 sockets to accept TCP connections from IPv4 nodes, or receive UDP packets from IPv4 nodes, the system returns the peer's address to the application in the accept(),



recvfrom(), or getpeername() call using a sockaddr\_in6 structure encoded this way.

Few applications will likely need to know which type of node they are interoperating with. However, for those applications that do need to know, the IN6\_IS\_ADDR\_V4MAPPED() macro, defined in Section 6.7, is provided.

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### 3.8 IPv6 Wildcard Address

While the bind() function allows applications to select the source IP address of UDP packets and TCP connections, applications often want the system to select the source address for them. With IPv4, one specifies the address as the symbolic constant INADDR\_ANY (called the "wildcard" address) in the bind() call, or simply omits the bind() entirely.

Since the IPv6 address type is a structure (struct in6\_addr), a symbolic constant can be used to initialize an IPv6 address variable, but cannot be used in an assignment. Therefore systems provide the IPv6 wildcard address in two forms.

The first version is a global variable named "in6addr\_any" that is an in6\_addr structure. The extern declaration for this variable is defined in <netinet/in.h>:

```
extern const struct in6_addr in6addr_any;
```

Applications use in6addr\_any similarly to the way they use INADDR\_ANY in IPv4. For example, to bind a socket to port number 23, but let the system select the source address, an application could use the following code:

```
struct sockaddr_in6 sin6;  
...  
sin6.sin6_family = AF_INET6;  
sin6.sin6_flowinfo = 0;
```



```

sin6.sin6_port = htons(23);
sin6.sin6_addr = in6addr_any; /* structure assignment */
...
if (bind(s, (struct sockaddr *) &sin6, sizeof(sin6)) == -1)
    ..
.

```

The other version is a symbolic constant named `IN6ADDR_ANY_INIT` and is defined in `<netinet/in.h>`. This constant can be used to initialize an `in6_addr` structure:

```

struct in6_addr anyaddr = IN6ADDR_ANY_INIT;

```

Note that this constant can be used **ONLY** at declaration time. It can not be used to assign a previously declared `in6_addr` structure. For example, the following code will not work:

```

/* This is the WRONG way to assign an unspecified address */
struct sockaddr_in6 sin6;
...
sin6.sin6_addr = IN6ADDR_ANY_INIT; /* will NOT compile */

```

Be aware that the IPv4 `INADDR_xxx` constants are all defined in host byte order but the IPv6 `IN6ADDR_xxx` constants and the IPv6 `in6addr_xxx` externals are defined in network byte order.

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### 3.9 IPv6 Loopback Address

Applications may need to send UDP packets to, or originate TCP connections

to, services residing on the local node. In IPv4, they can do this by using the constant IPv4 address `INADDR_LOOPBACK` in their `connect()`, `sendto()`, or `sendmsg()` call.

IPv6 also provides a loopback address to contact local TCP and UDP



services. Like the unspecified address, the IPv6 loopback address is provided in two forms -- a global variable and a symbolic constant.

The global variable is an `in6_addr` structure named `"in6addr_loopback."` The extern declaration for this variable is defined in `<netinet/in.h>`:

```
extern const struct in6_addr in6addr_loopback;
```

Applications use `in6addr_loopback` as they would use `INADDR_LOOPBACK` in IPv4 applications (but beware of the byte ordering difference mentioned at the end of the previous section). For example, to open a TCP connection to the local telnet server, an application could use the following code:

```
struct sockaddr_in6 sin6;
...
sin6.sin6_family = AF_INET6;
sin6.sin6_flowinfo = 0;
sin6.sin6_port = htons(23);

sin6.sin6_addr = in6addr_loopback; /* structure assignment */
...
if (connect(s, (struct sockaddr *) &sin6, sizeof(sin6)) == -1)
    ...
```

The symbolic constant is named `IN6ADDR_LOOPBACK_INIT` and is defined in `<netinet/in.h>`. It can be used at declaration time ONLY; for example:

```
struct in6_addr loopbackaddr = IN6ADDR_LOOPBACK_INIT;
```

Like `IN6ADDR_ANY_INIT`, this constant cannot be used in an assignment to a previously declared IPv6 address variable.

### 3.10 Portability Additions

One simple addition to the sockets API that can help application writers is the `"struct sockaddr_storage"`. This data structure can simplify writing code portable across multiple address families and platforms. This data structure is designed with the following goals.

- It has a large enough implementation specific maximum size to store the desired set of protocol specific socket address data structures. Specifically, it is at least large enough to accommodate `sockaddr_in`

and `sockaddr_in6` and possibly other protocol specific socket addresses too.



- It is aligned at an appropriate boundary so protocol specific socket address data structure pointers can be cast to it and access their fields without alignment problems. (e.g. pointers to sockaddr\_in6 and/or sockaddr\_in can be cast to it and access fields without alignment

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problems).

- It has the initial field(s) isomorphic to the fields of the "struct sockaddr" data structure on that implementation which can be used as a discriminants for deriving the protocol in use. These initial field(s) would on most implementations either be a single field of type "sa\_family\_t" (isomorphic to sa\_family field, 16 bits) or two fields of type uint8\_t and sa\_family\_t respectively, (isomorphic to sa\_len and sa\_family\_t, 8 bits each).

An example implementation design of such a data structure would be as follows.

```
/*
 * Desired design of maximum size and alignment
 */
#define _SS_MAXSIZE 128 /* Implementation specific max size */
#define _SS_ALIGNSIZE (sizeof (int64_t))
                        /* Implementation specific desired alignment */
/*
 * Definitions used for sockaddr_storage structure paddings design.
 */
#define _SS_PAD1SIZE (_SS_ALIGNSIZE - sizeof (sa_family_t))
#define _SS_PAD2SIZE (_SS_MAXSIZE - (sizeof (sa_family_t)+
                        _SS_PAD1SIZE + _SS_ALIGNSIZE))
struct sockaddr_storage {
    sa_family_t __ss_family; /* address family */
    /* Following fields are implementation specific */
    char __ss_pad1[_SS_PAD1SIZE];
        /* 6 byte pad, this is to make implementation
        /* specific pad up to alignment field that */
        /* follows explicit in the data structure */
    int64_t __ss_align; /* field to force
desired structure */
        /* storage alignment */
    char __ss_pad2[_SS_PAD2SIZE];
```



```

        /* 112 byte pad to achieve desired size, */
        /* __SS_MAXSIZE value minus size of ss_family */
        /* __ss_pad1, __ss_align fields is 112 */
};

```

On implementations where sockaddr data structure includes a "sa\_len", field this data structure would look like this:

```

/*
 * Definitions used for sockaddr_storage structure paddings design.
 */
#define _SS_PAD1SIZE (_SS_ALIGNSIZE -
                    (sizeof (uint8_t) + sizeof (sa_family_t))
#define _SS_PAD2SIZE (_SS_MAXSIZE - (sizeof (sa_family_t)+
                    _SS_PAD1SIZE + _SS_ALIGNSIZE))
struct sockaddr_storage {
    uint8_t    __ss_len;    /* address length */
    sa_family_t __ss_family; /* address family */
    /* Following fields are implementation specific */
    char    __ss_pad1[_SS_PAD1SIZE];
        /* 6 byte pad, this is to make implementation
        /* specific pad up to alignment field that */
        /* follows explicit in the data structure */
    int64_t    __ss_align; /* field to force desired structure */

```

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```

        /* storage alignment */
    char    __ss_pad2[_SS_PAD2SIZE];
        /* 112 byte pad to achieve desired size, */
        /* __SS_MAXSIZE value minus size of ss_len, */
        /* __ss_family, __ss_pad1, __ss_align fields is 112 */
};

```

The above example implementation illustrates a data structure which will align on a 64 bit boundary. An implementation specific field "\_\_ss\_align" along "\_\_ss\_pad1" is used to force a 64-bit alignment which covers proper alignment good enough for needs of sockaddr\_in6 (IPv6), sockaddr\_in (IPv4) address data structures. The size of padding fields \_\_ss\_pad1 depends on the chosen alignment boundary. The size of padding field \_\_ss\_pad2 depends on the value of overall size chosen for the total size of the structure. This size and alignment are represented in



the above example by implementation specific (not required) constants `_SS_MAXSIZE` (chosen value 128) and `_SS_ALIGNMENT` (with chosen value 8). Constants `_SS_PAD1SIZE` (derived value 6) and `_SS_PAD2SIZE` (derived value 112) are also for illustration and not required. The implementation specific definitions and structure field names above start with an underscore to denote implementation private namespace. Portable code is not expected to access or reference those fields or constants.

The `sockaddr_storage` structure solves the problem of declaring storage for automatic variables which is large enough and aligned enough for storing socket address data structure of any family. For example, code with a file descriptor and without the context of the address family can pass a pointer to a variable of this type where a pointer to a socket address structure is expected in calls such as `getpeername()` and determine the address family by accessing the received content after the call.

The `sockaddr_storage` structure may also be useful and applied to certain other interfaces where a generic socket address large enough and aligned for use with multiple address families may be needed. A discussion of those interfaces is outside the scope of this document.

Also, much existing code assumes that any socket address structure can fit in a generic `sockaddr` structure. While this has been true for IPv4 socket address structures, it has always been false for Unix domain socket address structures (but in practice this has not been a problem) and it is also false for IPv6 socket address structures (which can be a problem).

So now an application can do the following:

```
struct sockaddr_storage __ss;  
struct sockaddr_in6 *sin6;  
sin6 = (struct sockaddr_in6 *) &__ss;
```

#### 4. Interface Identification

This

API uses an interface index (a small positive integer) to identify the local interface on which a multicast group is joined (Section 5.3). Additionally, the advanced API [4] uses these same interface indexes to identify the interface on which a datagram is received, or to specify



the interface on which a datagram is to be sent.

Interfaces are normally known by names such as "le0", "sl1", "ppp2", and the like. On Berkeley-derived implementations, when an interface is made known to the system, the kernel assigns a unique positive integer value (called the interface index) to that interface. These are small positive integers that start at 1. (Note that 0 is never used for an interface index.) There may be gaps so that there is no current interface for a particular positive interface index.

This API defines two functions that map between an interface name and index, a third function that returns all the interface names and indexes, and a fourth function to return the dynamic memory allocated by the previous function. How these functions are implemented is left up to the implementation. 4.4BSD implementations can implement these functions using the existing sysctl() function with the NET\_RT\_IFLIST command. Other implementations may wish to use ioctl() for this purpose.

#### 4.1 Name-to-Index

The first function maps an interface name into its corresponding index.

```
#include <net/if.h>
```

```
unsigned int if_nametoindex(const char *ifname);
```

If the specified interface name does not exist, the return value is 0, and errno is set to ENXIO. If there was a system error (such as running out of memory), the return value is 0 and errno is set to the proper value (e.g., ENOMEM).

#### 4.2 Index-to-Name

The second function maps an interface index into its corresponding name.

```
#include <net/if.h>
```



```
char *if_indextoname(unsigned
int ifindex, char *ifname);
```

The ifname argument must point to a buffer of at least IF\_NAMESIZE bytes into which the interface name corresponding to the specified index is returned. (IF\_NAMESIZE is also defined in <net/if.h> and its value includes a terminating null byte at the end of the interface name.) This pointer is also the return value of the function. If there is no interface corresponding to the specified index, NULL is returned, and errno is set to ENXIO, if there was a system error (such as running out of memory), if\_indextoname returns NULL and errno would be set to the proper value (e.g., ENOMEM).

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#### 4.3 Return All Interface Names and Indexes

The if\_nameindex structure holds the information about a single interface and is defined as a result of including the <net/if.h> header.

```
struct if_nameindex {
    unsigned int  if_index; /* 1, 2, ... */
    char         *if_name; /* null terminated name: "le0", ... */
};
```

The final function returns an array of if\_nameindex structures, one structure per interface.

```
struct if_nameindex *if_nameindex(void);
```

The end of the array of structures is indicated by a structure with an if\_index of 0 and an if\_name of NULL. The function returns a NULL pointer upon an error, and would set errno to the appropriate value.

The memory used for this array of structures along with the interface names pointed to by the if\_name members is obtained dynamically. This memory is freed by the next function.



## 4.4 Free Memory

The following function frees the dynamic memory that was allocated by `if_nameindex()`.

```
#include <net/if.h>

void if_freenameindex(struct if_nameindex *ptr);
```

The argument to this function must be a pointer that was returned by `if_nameindex()`.

Currently `net/if.h` doesn't have prototype definitions for functions and it is recommended that these definitions be defined in `net/if.h` as well and the struct `if_nameindex{ }`.

## 5. Socket Options

A number of new socket options are defined for IPv6. All of these new options are at the `IPPROTO_IPV6` level. That is, the "level" parameter in the `getsockopt()` and `setsockopt()` calls is `IPPROTO_IPV6` when using these options. The constant name prefix `IPV6_` is used in all of the new socket options. This serves to clearly identify these options as applying to IPv6.

The declaration for `IPPROTO_IPV6`, the new IPv6 socket options, and related constants defined in this section are obtained by including the header `<netinet/in.h>`.

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### 5.1 Unicast Hop Limit

A new `setsockopt()` option controls the hop limit used in outgoing unicast IPv6 packets. The name of this option is `IPV6_UNICAST_HOPS`, and



it is used at the IPPROTO\_IPV6 layer. The following example illustrates how it is used:

```
int hoplimit = 10;

if (setsockopt(s, IPPROTO_IPV6, IPV6_UNICAST_HOPS,
              (char *) &hoplimit, sizeof(hoplimit)) == -1)
    perror("setsockopt IPV6_UNICAST_HOPS");
```

When the IPV6\_UNICAST\_HOPS option is set with setsockopt(), the option value given is used as the hop limit for all subsequent unicast packets sent via that socket. If the option is not set, the system selects a default value. The integer hop limit value (called x) is interpreted as follows:

```
x < -1:    return an error of EINVAL
x == -1:    use kernel default
0 <= x <= 255: use x
x >= 256:   return an error of EINVAL
```

The IPV6\_UNICAST\_HOPS option may be used with getsockopt() to determine the hop limit value that the system will use for subsequent unicast packets sent via that socket. For example:

```
int hoplimit;
size_t len = sizeof(hoplimit);

if (getsockopt(s, IPPROTO_IPV6, IPV6_UNICAST_HOPS,
              (char *) &hoplimit, &len) == -1)
    perror("getsockopt IPV6_UNICAST_HOPS");
else
    printf("Using %d for hop limit.\n", hoplimit);
```

## 5.2 Sending and Receiving Multicast Packets

IPv6 applications may send UDP multicast packets by simply specifying an IPv6 multicast address in the address argument of the sendto() function.

Three socket options at the IPPROTO\_IPV6 layer control some of the parameters for sending multicast packets. Setting these options is not required: applications may send multicast packets without using these options. The setsockopt() options for controlling the sending of multicast packets are summarized below. These three options can also be used with getsockopt().



## IPV6\_MULTICAST\_IF

Set the interface to use for outgoing multicast packets.  
The argument is the index of the interface to use.

Argument type: unsigned int

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## IPV6\_MULTICAST\_HOPS

Set the hop limit to use for outgoing multicast packets.  
(Note a separate option - IPV6\_UNICAST\_HOPS - is provided to set the hop limit to use for outgoing unicast packets.)

The interpretation of the argument is the same as for the IPV6\_UNICAST\_HOPS option:

x < -1: return an error of EINVAL  
x == -1: use kernel default  
0 <= x <= 255: use x  
x >= 256: return an error of EINVAL

If IPV6\_MULTICAST\_HOPS is not set, the default is 1  
(same as IPv4 today)

Argument type: int

## IPV6\_MULTICAST\_LOOP

If a multicast datagram is sent to a group to which the sending host itself belongs (on the outgoing interface), a copy of the datagram is looped back by the IP layer for local delivery if this option is set to 1. If this option is set to 0 a copy is not looped back. Other option values  
return an error of EINVAL.

If IPV6\_MULTICAST\_LOOP is not set, the default is 1 (loopback; same as IPv4 today).



Argument type: unsigned int

The reception of multicast packets is controlled by the two `setsockopt()` options summarized below. An error of `EOPNOTSUPP` is returned if these two options are used with `getsockopt()`.

#### IPV6\_JOIN\_GROUP

Join a multicast group on a specified local interface.

If the interface index is specified as 0,  
the kernel chooses the local interface.

For example, some kernels look up the multicast group  
in the normal IPv6 routing table and using the resulting interface.

Argument type: struct `ipv6_mreq`

#### IPV6\_LEAVE\_GROUP

Leave a multicast group on a specified interface.

Argument type: struct `ipv6_mreq`

The argument type of both of these options is the `ipv6_mreq` structure,  
defined as a result of including the `<netinet/in.h>` header;

```
struct ipv6_mreq {  
    struct in6_addr ipv6mr_multiaddr;  
    /* IPv6 multicast addr */
```

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```
    unsigned int  ipv6mr_interface; /* interface index */  
};
```

Note that to receive multicast datagrams a process must join the  
multicast group and bind the UDP port to which datagrams will be sent.  
Some processes also bind the multicast group address to the socket, in  
addition to the port, to prevent other datagrams destined to that same  
port from being delivered to the socket.



## 6. Library Functions

New library functions are needed to perform a variety of operations with IPv6 addresses. Functions are needed to lookup IPv6 addresses in the Domain Name System (DNS). Both forward lookup (nodename-to-address translation) and reverse lookup (address-to-nodename translation) need to be supported. Functions are also needed to convert IPv6 addresses between their binary and textual form.

We note that

the two existing functions, `gethostbyname()` and `gethostbyaddr()`, are left as-is. New functions are defined to handle both IPv4 and IPv6 addresses.

### 6.1 Nodename-to-Address Translation

The commonly used function `gethostbyname()` is inadequate for many applications, first because it provides no way for the caller to specify anything about the types of addresses desired (IPv4 only, IPv6 only, IPv4-mapped IPv6 are OK, etc.), and second because many implementations of this function are not thread safe. RFC 2133 defined a function named `gethostbyname2()` but this function was also inadequate, first because its use required setting a global option (`RES_USE_INET6`) when IPv6 addresses were required, and second because a flag argument is needed to provide the caller with additional control over the types of addresses required.

The following function is new and must be thread safe:

```
#include <sys/socket.h>
#include <netdb.h>

struct hostent *getipnodebyname(const char *name, int
af, int flags
                                int *error_num);
```

The name argument can be either a node name or a numeric address string (i.e., a dotted-decimal IPv4 address or an IPv6 hex address). The af argument specifies the address family, either `AF_INET` or `AF_INET6`. The error\_num value is returned to the caller, via a pointer, with the appropriate error code in error\_num, to support thread safe error code returns. error\_num will be set to one of the following values:

`HOST_NOT_FOUND`

No such host is known.



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## NO\_ADDRESS

The server recognised the request and the name but no address is available. Another type of request to the name server for the domain might return an answer.

## NO\_RECOVERY

An unexpected server failure occurred which cannot be recovered.

## TRY\_AGAIN

A temporary and possibly transient error occurred, such as a failure of a server to respond.

The flags argument specifies the types of addresses that are searched for, and the types of addresses that are returned. We note that a special flags value of AI\_DEFAULT (defined below) should handle most applications.

That is, porting simple applications to use IPv6 replaces the call

```
hptr = gethostbyname(name);
```

with

```
hptr = getipnodebyname(name, AF_INET6, AI_DEFAULT, &error_num);
```

and changes any subsequent error diagnosis code to use error\_num instead of externally declared variables, such as h\_errno.

Applications desiring finer control over the types of addresses searched for and returned, can specify other combinations of the flags argument.

A flags of 0 implies a strict interpretation of the af argument:

- If flags is 0 and af is AF\_INET, then the caller wants only IPv4



addresses. A query is made for A records. If successful, the IPv4 addresses are returned and the h\_length member of the hostent structure will be 4, else the function returns a NULL pointer.

- If flags is 0 and if af is AF\_INET6, then the caller wants only IPv6 addresses. A query is made for AAAA records. If successful, the IPv6 addresses are returned and the h\_length member of the hostent structure will be 16, else the function returns a NULL pointer.

Other constants can be logically-ORed into the flags argument, to modify the behavior of the function.

- If the AI\_V4MAPPED flag is specified along with an af of AF\_INET6, then the caller will accept IPv4-mapped IPv6 addresses. That is, if no AAAA records are found then a query is made for A records and any found are returned as IPv4-mapped IPv6 addresses (h\_length will be 16). The AI\_V4MAPPED flag is ignored unless af equals AF\_INET6.

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- The AI\_ALL flag is used in conjunction with the AI\_V4MAPPED flag, and is only used with the IPv6 address family. When AI\_ALL is logically or'd with AI\_V4MAPPED flag then the caller wants all addresses: IPv6 and IPv4-mapped IPv6. A query is first made for AAAA records and if successful, the IPv6 addresses are returned. Another query is then made for A records and any found are returned as IPv4-mapped IPv6 addresses. h\_length will be 16. Only if both queries fail does the function return a NULL pointer. This flag is ignored unless af equals AF\_INET6.
- The AI\_ADDRCONFIG flag specifies that a query for AAAA records should occur only if the node has at least one IPv6 source address configured and a query for A records should occur only if the node has at least one IPv4 source address configured.

For example, if the node has no IPv6 source addresses configured, and af equals



AF\_INET6, and the node name being looked up has both AAAA and A records, then:

- (a) if only AI\_ADDRCONFIG is specified, the function returns a NULL pointer;
- (b) if AI\_ADDRCONFIG | AI\_V4MAPPED is specified, the A records are returned as IPv4-mapped IPv6 addresses;

The special flags value of AI\_DEFAULT is defined as

```
#define AI_DEFAULT (AI_V4MAPPED | AI_ADDRCONFIG)
```

We noted that the getipnodebyname() function must allow the name argument to be either a node name or a literal address string (i.e., a dotted-decimal IPv4 address or an IPv6 hex address). This saves applications from having to call inet\_pton() to handle literal address strings.

There are four scenarios based on the type of literal address string and the value of the af argument.

The two simple cases are:

When name is a dotted-decimal IPv4 address and af equals AF\_INET, or when name is an IPv6 hex address and af equals AF\_INET6. The members of the returned hostent structure are: h\_name points to a copy of the name argument, h\_aliases is a NULL pointer, h\_addrtype is a copy of the af argument, h\_length is either 4 (for AF\_INET) or 16 (for AF\_INET6), h\_addr\_list[0] is a pointer to the 4-byte or 16-byte binary address, and h\_addr\_list[1] is a NULL pointer.

When name is a dotted-decimal IPv4 address and af equals AF\_INET6, and flags equals AI\_V4MAPPED, an IPv4-mapped IPv6 address is returned: h\_name points to an IPv6 hex address containing the IPv4-mapped IPv6 address, h\_aliases is a NULL pointer, h\_addrtype is AF\_INET6, h\_length is 16, h\_addr\_list[0] is a pointer to the 16-byte binary address, and h\_addr\_list[1] is a NULL pointer. If AI\_V4MAPPED is set (with or without AI\_ALL) return IPv4-mapped otherwise return NULL.

It is an error when name is an IPv6 hex address and af equals AF\_INET. The function's return value is a NULL pointer and error\_num equals HOST\_NOT\_FOUND.



## 6.2 Address-To-Nodename Translation

The following function has the same arguments as the existing `gethostbyaddr()` function, but adds an error number.

```
#include <sys/socket.h>
#include <netdb.h>

struct hostent *getipnodebyaddr(const void *src, size_t len, int af,
                                int *error_num);
```

As with `getipnodebyname()`, `getipnodebyaddr()` must be thread safe. The `error_num` value is returned to the caller with the appropriate error code, to support thread safe error code returns. The following error conditions may be returned for `error_num`:

### HOST\_NOT\_FOUND

No such host is known.

### NO\_ADDRESS

The server recognized the request and the name but no address is available. Another type of request to the name server for the domain might return an answer.

### NO\_RECOVERY

An unexpected server failure occurred which cannot be recovered.

### TRY\_AGAIN

A temporary and possibly transient error occurred, such as a failure of a server to respond.

One possible source of confusion is the handling of IPv4-mapped IPv6 addresses and IPv4-compatible IPv6 addresses, but the following logic should apply.

1. If `af` is `AF_INET6`, and if `len` equals 16, and if the IPv6 address is an IPv4-mapped IPv6 address or an IPv4-compatible IPv6 address, then skip over the first 12 bytes of the IPv6 address, set `af` to `AF_INET`, and set `len` to 4.



2. If af is AF\_INET, lookup the name for the given IPv4 address (e.g., query for a PTR record in the in-addr.arpa domain).
3. If af is AF\_INET6, lookup the name for the given IPv6 address (e.g., query for a PTR record in the ip6.int domain).
4. If the function is returning success, then the single address that is returned in the hostent structure is a copy of the first argument to the function with the same address family that was passed as an argument to this function.

All four steps listed are performed, in order. Also note that the IPv6 hex addresses "::" and "::1" MUST NOT be treated as IPv4-compatible

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addresses, and if the address is "::", HOST\_NOT\_FOUND MUST be returned and a query of the address not performed.

Also for the macro in section 6.7 IN6\_IS\_ADDR\_V4COMPAT MUST return false for "::" and "::1".

### 6.3 Freeing memory for getipnodebyname and getipnodebyaddr

The hostent structure does not change from its existing definition. This structure, and the information pointed to by this structure, are dynamically allocated by getipnodebyname and getipnodebyaddr. The following function frees this memory:

```
#include <netdb.h>

void freehostent(struct hostent *ptr);
```

### 6.4 Protocol-Independent Nodename and Service Name Translation

Nodename-to-address translation



is done in a protocol-independent fashion using the `getaddrinfo()` function that is taken from the Institute of Electrical and Electronic Engineers (IEEE) POSIX 1003.1g (Protocol Independent Interfaces) draft specification [3].

The official specification for this function will be the final POSIX standard, with the following additional requirements:

- `getaddrinfo()` (along with the `getnameinfo()` function described in the next section) must be thread safe.
- The `AI_NUMERICHOST` is new with this document.
- All fields in socket address structures returned by `getaddrinfo()` that are not filled in through an explicit argument (e.g., `sin6_flowinfo` and `sin_zero`) must be set to 0. (This makes it easier to compare socket address structures.)
- `getaddrinfo()` must fill in the length field of a socket address structure (e.g., `sin6_len`) on systems that support this field.

We are providing this independent description of the function because POSIX standards are not freely available (as are IETF documents).

```
#include <sys/socket.h>
#include <netdb.h>
```

```
int getaddrinfo(const char *nodename, const char *servname,
               const struct addrinfo *hints,
               struct addrinfo **res);
```

The `addrinfo` structure is defined as a result of including the `<netdb.h>` header.

```
struct addrinfo {
```

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```
int ai_flags; /* AI_PASSIVE, AI_CANONNAME, AI_NUMERICHOST */
int ai_family; /* PF_XXX */
int ai_socktype; /* SOCK_XXX */
int ai_protocol; /* 0 or IPPROTO_XXX for IPv4 and IPv6 */
```



```

size_t ai_addrlen; /* length of ai_addr */
char *ai_canonname; /* canonical name for nodename */
struct sockaddr *ai_addr; /* binary address */
struct addrinfo *ai_next; /* next structure in linked list */
};

```

The return

value from the function is 0 upon success or a nonzero error code. The following names are the nonzero error codes from `getaddrinfo()`, and are defined in `<netdb.h>`:

```

EAI_ADDRFAMILY  address family for nodename not supported
EAI_AGAIN       temporary failure in name resolution
EAI_BADFLAGS    invalid value for ai_flags
EAI_FAIL        non-recoverable failure in name resolution
EAI_FAMILY      ai_family not supported
EAI_MEMORY      memory allocation failure
EAI_NODATA      no address associated with nodename
EAI_NONAME      nodename nor servname provided, or not known
EAI_SERVICE     servname not supported for ai_socktype
EAI_SOCKTYPE    ai_socktype not supported
EAI_SYSTEM      system error returned in errno

```

The `nodename` and `servname` arguments are pointers to null-terminated strings or `NULL`. One or both of these two arguments must be a non-`NULL` pointer. In the normal client scenario, both the `nodename` and `servname` are specified. In the normal server scenario, only the `servname` is specified. A non-`NULL` `nodename` string can be either a node name or a numeric host address string (i.e., a dotted-decimal IPv4 address or an IPv6 hex address). A non-`NULL` `servname` string can be either a service name or a decimal port number.

The caller can optionally pass an `addrinfo` structure, pointed to by the third argument, to provide hints concerning the type of socket that the caller supports. In this hints structure all members other than `ai_flags`, `ai_family`, `ai_socktype`, and `ai_protocol` must be zero or a `NULL` pointer. A value of `PF_UNSPEC` for `ai_family` means the caller will accept any protocol family. A value of 0 for `ai_socktype` means the caller will accept any socket type. A value of 0 for `ai_protocol` means the caller will accept any protocol. For example, if the caller handles only TCP and not UDP, then the `ai_socktype` member of the hints structure should be set to `SOCK_STREAM` when `getaddrinfo()` is called. If the caller handles only IPv4 and not IPv6, then the `ai_family` member of the hints structure should be set to `PF_INET` when `getaddrinfo()` is called. If the third argument to `getaddrinfo()` is a `NULL` pointer, this is the same as if the caller had filled in an `addrinfo` structure initialized to



zero with ai\_family set to PF\_UNSPEC.

Upon successful return a pointer to a linked list of one or more addrinfo structures is returned through the final argument. The caller can process each addrinfo structure in this list by following the ai\_next pointer, until a NULL pointer is encountered. In each returned addrinfo structure the three members ai\_family, ai\_socktype, and ai\_protocol are the corresponding arguments for a call to the socket() function. In each addrinfo structure the ai\_addr member points to a

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filled-in socket address structure whose length is specified by the ai\_addrlen member.

If the AI\_PASSIVE bit is set in the ai\_flags member of the hints structure, then the caller plans to use the returned socket address structure in a call to bind(). In this case, if the nodename argument is a NULL pointer, then the IP address portion of the socket address structure will be set to INADDR\_ANY for an IPv4 address or IN6ADDR\_ANY\_INIT for an IPv6 address.

If the AI\_PASSIVE bit is not set in the ai\_flags member of the hints structure, then the returned socket address structure will be ready for a call to connect() (for a connection-oriented protocol) or either connect(), sendto(), or sendmsg() (for a connectionless protocol). In this case, if the nodename argument is a NULL pointer, then the IP address portion of the socket address structure will be set to the loopback address.

If the AI\_CANONNAME bit is set in the ai\_flags member of the hints structure, then upon successful return the ai\_canonname member of the first addrinfo structure in the linked list will point to a null-terminated string containing the canonical name of the specified nodename.

If the AI\_NUMERICHOST bit is set in the ai\_flags member of the hints structure, then a non-NULL nodename string must be a numeric host address string. Otherwise an error of EAI\_NONAME is returned. This flag prevents any type of name resolution service (e.g., the DNS) from being called.



All of the information returned by `getaddrinfo()` is dynamically allocated: the `addrinfo` structures, and the socket address structures and canonical node name strings pointed to by the `addrinfo` structures. To return this information to the system the function `freeaddrinfo()` is called:

```
#include <sys/socket.h>
#include <netdb.h>

void freeaddrinfo(struct addrinfo *ai);
```

The `addrinfo` structure pointed to by the `ai` argument is freed, along with any dynamic storage pointed to by the structure. This operation is repeated until a NULL `ai_next` pointer is encountered.

To aid applications in printing error messages based on the `EAI_XXX` codes returned by `getaddrinfo()`, the following function is defined.

```
#include <sys/socket.h>
#include <netdb.h>

char *gai_strerror(int ecode);
```

The argument is one of the `EAI_XXX` values defined earlier and the return value points to a string describing the error. If the argument is not one of the `EAI_XXX` values, the function still returns a pointer to a string whose contents indicate an unknown error.

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## 6.5 Socket Address Structure to Nodename and Service Name

The POSIX 1003.1g specification includes no function to perform the reverse conversion from `getaddrinfo()`: to look up a nodename and service name, given the binary address and port. Therefore, we define the following function:

```
#include <sys/socket.h>
#include <netdb.h>
```



```
int getnameinfo(const struct sockaddr *sa, socklen_t
salen,
                char *host, size_t hostlen,
                char *serv, size_t servlen,
                int flags);
```

This function looks up an IP address and port number provided by the caller in the DNS and system-specific database, and returns text strings for both in buffers provided by the caller. The function indicates successful completion by a zero return value; a non-zero return value indicates failure.

The first argument, sa, points to either a sockaddr\_in structure (for IPv4) or a sockaddr\_in6 structure (for IPv6) that holds the IP address and port number. The salen argument gives the length of the sockaddr\_in or sockaddr\_in6 structure.

The function returns the nodename associated with the IP address in the buffer pointed to by the host argument. The caller provides the size of this buffer via the hostlen argument. The service name associated with the port number is returned in the buffer pointed to by serv, and the servlen argument gives the length of this buffer. The caller specifies not to return either string by providing a zero value for the hostlen or servlen arguments. Otherwise, the caller must provide buffers large enough to hold the nodename and the service name, including the terminating null characters.

Unfortunately most systems do not provide constants that specify the maximum size of either a fully-qualified domain name or a service name. Therefore to aid the application in allocating buffers for these two returned strings the following constants are defined in <netdb.h>:

```
#define NI_MAXHOST 1025
#define NI_MAXSERV 32
```

The first value is actually defined as the constant MAXDNAME in recent versions of BIND's <arpa/nameser.h> header (older versions of BIND define this constant to be 256) and the second is a guess based on the services listed in the current Assigned Numbers RFC.

The final argument is a flag that changes the default actions of this function. By default the fully-qualified domain name (FQDN) for the host is looked up in the DNS and returned. If the flag bit NI\_NOFQDN is set, only the nodename portion of the FQDN is returned for local hosts.

If the flag bit NI\_NUMERICHOST is set, or if the host's name cannot be



located in the DNS, the numeric form of the host's address is returned instead of its name (e.g., by calling `inet_ntop()` instead of `getipnodebyaddr()`). If the flag bit `NI_NAMEREQD` is set, an error is

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returned if the host's name cannot be located in the DNS.

If the flag bit `NI_NUMERICSERV` is set, the numeric form of the service address is returned (e.g., its port number) instead of its name. The two `NI_NUMERICxxx` flags are required to support the "-n" flag that many commands provide.

A fifth flag bit, `NI_DGRAM`, specifies that the service is a datagram service, and causes `getservbyport()` to be called with a second argument of "udp" instead of its default of "tcp". This is required for the few ports (e.g. 512-514) that have different services for UDP and TCP.

These `NI_xxx` flags are defined in `<netdb.h>` along with the `AI_xxx` flags already defined for `getaddrinfo()`.

## 6.6 Address Conversion Functions

The two functions `inet_addr()` and `inet_ntoa()` convert an IPv4 address between binary and text form. IPv6 applications need similar functions. The following two functions convert both IPv6 and IPv4 addresses:

```
#include <sys/socket.h>
#include <arpa/inet.h>

int inet_pton(int af, const char *src, void *dst);

const char *inet_ntop(int af, const void *src,
                      char *dst, size_t size);
```

The `inet_pton()` function converts an address in its standard text presentation form into its numeric binary form. The `af` argument specifies the family of the address. Currently the `AF_INET` and `AF_INET6` address families are supported. The `src` argument points to the string being passed



in. The `dst` argument points to a buffer into which the function stores the numeric address. The address is returned in network byte order. `Inet_pton()` returns 1 if the conversion succeeds, 0 if the input is not a valid IPv4 dotted-decimal string or a valid IPv6 address string, or -1 with `errno` set to `EAFNOSUPPORT` if the `af` argument is unknown. The calling application must ensure that the buffer referred to by `dst` is large enough to hold the numeric address (e.g., 4 bytes for `AF_INET` or 16 bytes for `AF_INET6`).

If the `af` argument is `AF_INET`, the function accepts a string in the standard IPv4 dotted-decimal form:

`ddd.ddd.ddd.ddd`

where `ddd` is a one to three digit decimal number between 0 and 255. Note that many implementations of the existing `inet_addr()` and `inet_aton()` functions accept nonstandard input: octal numbers, hexadecimal numbers, and fewer than four numbers. `inet_pton()` does not accept these formats.

If the `af` argument is `AF_INET6`, then the function accepts a string in one of the standard IPv6 text forms defined in Section 2.2 of the addressing architecture specification [2].

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The `inet_ntop()` function converts a numeric address into a text string suitable for presentation. The `af` argument specifies the family of the address. This can be `AF_INET` or `AF_INET6`. The `src` argument points to a buffer holding an IPv4 address if the `af` argument is `AF_INET`, or an IPv6 address if the `af` argument is `AF_INET6`, the address must be in network byte order. The `dst` argument points to a buffer where the function will store the resulting text string. The `size` argument specifies the size of this buffer. The application must specify a non-NULL `dst` argument. For IPv6 addresses, the buffer must be at least 46-octets. For IPv4 addresses, the buffer must be at least 16-octets. In order to allow applications to easily declare buffers of the proper size to store IPv4 and IPv6 addresses in string form, the following two constants are defined in `<netinet/in.h>`:

```
#define INET_ADDRSTRLEN 16
```



```
#define INET6_ADDRSTRLEN 46
```

The `inet_ntop()` function returns a pointer to the buffer containing the text string if the conversion succeeds, and `NULL` otherwise. Upon failure, `errno` is set to `EAFNOSUPPORT` if the `af` argument is invalid or `ENOSPC` if the size of the result buffer is inadequate.

## 6.7 Address Testing Macros

The following macros can be used to test for special IPv6 addresses.

```
#include <netinet/in.h>
```

```
int IN6_IS_ADDR_UNSPECIFIED (const struct in6_addr *);
int IN6_IS_ADDR_LOOPBACK   (const struct in6_addr *);
int IN6_IS_ADDR_MULTICAST  (const struct in6_addr *);
int IN6_IS_ADDR_LINKLOCAL  (const struct in6_addr *);
int IN6_IS_ADDR_SITELOCAL  (const struct in6_addr *);
int IN6_IS_ADDR_V4MAPPED   (const struct in6_addr *);
int IN6_IS_ADDR_V4COMPAT   (const
struct in6_addr *);

int IN6_IS_ADDR_MC_NODELOCAL(const struct in6_addr *);
int IN6_IS_ADDR_MC_LINKLOCAL(const struct in6_addr *);
int IN6_IS_ADDR_MC_SITELOCAL(const struct in6_addr *);
int IN6_IS_ADDR_MC_ORGLOCAL (const struct in6_addr *);
int IN6_IS_ADDR_MC_GLOBAL  (const struct in6_addr *);
```

The first seven macros return true if the address is of the specified type, or false otherwise. The last five test the scope of a multicast address and return true if the address is a multicast address of the specified scope or false if the address is either not a multicast address or not of the specified scope. Note that `IN6_IS_ADDR_LINKLOCAL` and `IN6_IS_ADDR_SITELOCAL` return true only for the two local-use IPv6 unicast addresses. These two macros do not return true for IPv6 multicast addresses of either link-local scope or site-local scope.



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## 7. Summary of New Definitions

The following list summarizes the constants, structure, and extern definitions discussed in this memo, sorted by header.

```
<net/if.h>  IF_NAMESIZE
<net/if.h>  struct if_nameindex{ };

<netdb.h>   AI_ADDRCONFIG
<netdb.h>   AI_DEFAULT
<netdb.h>   AI_ALL
<netdb.h>   AI_CANONNAME
<netdb.h>   AI_NUMERICHOST
<netdb.h>   AI_PASSIVE
<netdb.h>   AI_V4MAPPED
<netdb.h>   EAI_ADDRFAMILY
<netdb.h>   EAI_AGAIN
<netdb.h>   EAI_BADFLAGS
<netdb.h>   EAI_FAIL
<netdb.h>   EAI_FAMILY
<netdb.h>   EAI_MEMORY
<netdb.h>   EAI_NODATA
<netdb.h>   EAI_NONAME
<netdb.h>   EAI_SERVICE
<netdb.h>   EAI_SOCKTYPE
<netdb.h>   EAI_SYSTEM
<netdb.h>   NI_DGRAM
<netdb.h>   NI_MAXHOST
<netdb.h>   NI_MAXSERV
<netdb.h>   NI_NAMEREQD
<netdb.h>   NI_NOFQDN
<netdb.h>   NI_NUMERICHOST
<netdb.h>
NI_NUMERICSERV
<netdb.h>   struct addrinfo{ };

<netinet/in.h> IN6ADDR_ANY_INIT
<netinet/in.h> IN6ADDR_LOOPBACK_INIT
<netinet/in.h> INET6_ADDRSTRLEN
<netinet/in.h> INET_ADDRSTRLEN
<netinet/in.h> IPPROTO_IPV6
<netinet/in.h> IPV6_JOIN_GROUP
<netinet/in.h> IPV6_LEAVE_GROUP
```



```

<netinet/in.h> IPV6_MULTICAST_HOPS
<netinet/in.h> IPV6_MULTICAST_IF
<netinet/in.h> IPV6_MULTICAST_LOOP
<netinet/in.h> IPV6_UNICAST_HOPS
<netinet/in.h> SIN6_LEN
<netinet/in.h> extern const struct in6_addr in6addr_any;
<netinet/in.h> extern const struct in6_addr in6addr_loopback;
<netinet/in.h> struct in6_addr{ };
<netinet/in.h> struct ipv6_mreq{ };
<netinet/in.h> struct sockaddr_in6{ };

<sys/socket.h> AF_INET6
<sys/socket.h> PF_INET6
<sys/socket.h> struct sockaddr_storage;

```

The following list summarizes the function and macro prototypes

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discussed in this memo, sorted by header.

```

<arpa/inet.h> int inet_pton(int, const char *, void *);
<arpa/inet.h> const char *inet_ntop(int, const void *,
                                char *, size_t);

<net/if.h> char *if_indextoname(unsigned int, char *);
<net/if.h> unsigned int if_nametoindex(const char *);
<net/if.h> void if_freenameindex(struct if_nameindex *);
<net/if.h> struct if_nameindex *if_nameindex(void);

<netdb.h> int getaddrinfo(const char *, const char *,
                        const struct addrinfo *,
                        struct addrinfo **);
<netdb.h> int getnameinfo(const struct sockaddr *, socklen_t,
                        char *, size_t, char *, size_t, int);
<netdb.h> void freeaddrinfo(struct addrinfo *);
<netdb.h> char *gai_strerror(int);
<netdb.h> struct hostent *getipnodebyname(const
char *, int, int,
                                int *);
<netdb.h> struct hostent *getipnodebyaddr(const void *, size_t, int,
                                int *);

```



```

<netdb.h>    void freehostent(struct hostent *);

<netinet/in.h> int IN6_IS_ADDR_LINKLOCAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_LOOPBACK(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_MC_GLOBAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_MC_LINKLOCAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_MC_NODELOCAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_MC_ORGLOCAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_MC_SITELOCAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_MULTICAST(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_SITELOCAL(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_UNSPECIFIED(const struct in6_addr *);
<netinet/in.h>
int IN6_IS_ADDR_V4COMPAT(const struct in6_addr *);
<netinet/in.h> int IN6_IS_ADDR_V4MAPPED(const struct in6_addr *);

```

## 8. Security Considerations

IPv6 provides a number of new security mechanisms, many of which need to be accessible to applications. Companion memos detailing the extensions to the socket interfaces to support IPv6 security are being written.

## 9. Year 2000 Considerations

There are no issues for this draft concerning the Year 2000 issue regarding the use of dates.

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Changes From RFC 2133

Changes made in the March 1998 Edition (-01 draft):



Changed all "hostname" to "nodename" for consistency with other IPv6 documents.

Section 3.3: changed comment for `sin6_flowinfo` to be "traffic class & flow info" and updated corresponding text description to current definition of these two fields.

Section 3.10 ("Portability Additions") is new.

Section 6: a new paragraph was added reiterating that the existing `gethostbyname()` and `gethostbyaddr()` are not changed.

Section 6.1: change `gethostbyname3()` to `getnodebyname()`. Add `AI_DEFAULT` to handle majority of applications. Renamed `AI_V6ADDRCONFIG` to `AI_ADDRCONFIG` and define it for A records and IPv4 addresses too. Defined exactly what `getnodebyname()` must return if the name argument is a numeric address string.

Section 6.2: change `gethostbyaddr()` to `getnodebyaddr()`. Reword items 2 and 3 in the description of how to handle IPv4-mapped and IPv4-compatible addresses to "lookup a name" for a given address, instead of specifying what type of DNS query to issue.

Section 6.3: added two more requirements to `getaddrinfo()`.

Section 7: added the following constants to the list for `<netdb.h>`: `AI_ADDRCONFIG`, `AI_ALL`, and `AI_V4MAPPED`. Add union `sockaddr_union` and `SA_LEN` to the lists for `<sys/socket.h>`.

Updated references.

Changes made in the November 1997 Edition (-00 draft):

The data types have been changed to conform with Draft 6.6 of the Posix 1003.1g standard.

Section 3.2: data type of `s6_addr` changed to "uint8\_t".

Section 3.3: data type of `sin6_family` changed to "sa\_family\_t". data type of `sin6_port` changed to "in\_port\_t", data type of `sin6_flowinfo` changed to "uint32\_t".

Section 3.4: same as Section 3.3, plus data type of `sin6_len` changed to "uint8\_t".

Section 6.2: first argument of `gethostbyaddr()` changed from "const



char \*" to "const void \*" and second argument changed from "int" to "size\_t".

Section 6.4: second argument of getnameinfo() changed from "size\_t" to "socklen\_t".

The wording was changed when new structures were defined, to be more explicit as to which header must be included to define the structure:

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Section 3.2 (in6\_addr{ }), Section 3.3 (sockaddr\_in6{ }), Section 3.4 (sockaddr\_in6{ }), Section 4.3 (if\_nameindex{ }), Section 5.3 (ipv6\_mreq{ }), and Section 6.3 (addrinfo{ }).

Section 4: NET\_RT\_LIST changed to NET\_RT\_IFLIST.

Section 5.1: The IPV6\_ADDRFORM socket option was removed.

Section 5.3: Added a note that an option value other than 0 or 1 for IPV6\_MULTICAST\_LOOP returns an error. Added a note that IPV6\_MULTICAST\_IF, IPV6\_MULTICAST\_HOPS, and IPV6\_MULTICAST\_LOOP can also be used with getsockopt(), but IPV6\_ADD\_MEMBERSHIP and IPV6\_DROP\_MEMBERSHIP cannot be used with getsockopt().

Section 6.1: Removed the description of gethostbyname2() and its associated RES\_USE\_INET6 option, replacing it with gethostbyname3().

Section 6.2: Added requirement that gethostbyaddr() be thread safe. Reworded step 4 to avoid using the RES\_USE\_INET6 option.

Section 6.3: Added the requirement that getaddrinfo() and getnameinfo() be thread safe. Added the AI\_NUMERICHOST flag.

Section 6.6: Added clarification about IN6\_IS\_ADDR\_LINKLOCAL and IN6\_IS\_ADDR\_SITELOCAL macros.

Changes made to the draft -01 specification Sept 98

Changed priority to traffic class in the spec.



Added the need for scope identification in section 2.1.

Added sin6\_scope\_id to struct sockaddr\_in6 in sections 3.3 and 3.4.

Changed 3.10 to use generic storage structure to support holding IPv6 addresses and removed the SA\_LEN macro.

Distinguished between invalid input parameters and system failures for Interface Identification in Section 4.1 and 4.2.

Added defaults for multicast operations in section 5.2 and changed the names from ADD to JOIN and DROP to LEAVE to be consistent with IPv6 multicast terminology.

Changed getnodebyname to getipnodebyname, getnodebyaddr to getipnodebyaddr, and added MT safe error code to function parameters in section 6.

Moved freehostent  
to its own sub-section after getipnodebyaddr now  
6.3 (so this bumps all remaining sections in section 6.

Clarified the use of AI\_ALL and AI\_V4MAPPED that these are dependent on the AF parameter and must be used as a conjunction in section 6.1.

Removed the restriction that literal addresses cannot be used with a flags argument in section 6.1.

Added Year 2000 Section to the draft

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Deleted Reference to the following because the attached is deleted from the ID directory and has expired. But the logic from the aforementioned draft still applies, so that was kept in Section 6.2 bullets after 3rd paragraph.

[7] P. Vixie, "Reverse Name Lookups of Encapsulated IPv4 Addresses in IPv6", Internet-Draft, <draft-vixie-ipng-ipv4ptr-00.txt>, May 1996.

Deleted the following reference as it is no longer referenced.  
And the draft has expired.



[3] D. McDonald, "A Simple IP Security API Extension to BSD Sockets",  
Internet-Draft, <draft-mcdonald-simple-ipsec-api-01.txt>,  
March 1997.

Deleted the following reference as it is no longer referenced.

[4] C. Metz, "Network Security API for Sockets",  
Internet-Draft, <draft-metz-net-security-api-01.txt>,  
January 1998.

Update current references to current status.

Added alignment notes for `in6_addr` and `sin6_addr`.

Clarified further that `AI_V4MAPPED` must be used with a dotted IPv4  
literal address for `getipnodebyname()`, when address family is  
`AF_INET6`.

Added text to clarify `:::` and `::1` when used by `getipnodebyaddr()`.

## Acknowledgments

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Glenn Trewitt, Paul Vixie, David Waitzman, Carl Williams, and Kazu  
Yamamoto,

The `getaddrinfo()` and `getnameinfo()` functions are taken from an earlier  
Internet Draft by Keith Sklower. As noted in that draft, William Durst,  
Steven Wise, Michael Karels, and Eric Allman provided many useful  
discussions on the subject of protocol-independent name-to-address  
translation, and reviewed early versions of Keith Sklower's original  
proposal. Eric Allman implemented the first prototype of `getaddrinfo()`.  
The observation that specifying the pair of name and service would  
suffice for connecting to a service independent of protocol details was  
made by Marshall Rose in a proposal  
to X/Open for a "Uniform Network  
Interface".



Craig Metz, Jack McCann, Erik Nordmark, Tim Hartrick, and Mukesh Kacker made many contributions to this document. Ramesh Govindan made a number

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of contributions and co-authored an earlier version of this memo.

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- [2] R. Hinden, S. Deering, "IP Version 6 Addressing Architecture", RFC 2373, July 1998 Draft Standard.
- [3] IEEE, "Protocol Independent Interfaces", IEEE Std 1003.1g, DRAFT 6.6, March 1997.
- [4] W. Stevens, M. Thomas, "Advanced Sockets API for IPv6", RFC 2292, February 1998.

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 ./bin/tests/system/acl/ns2/named3.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/acl/ns2/named4.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/acl/ns2/named5.conf.in CONF-C 2018,2019,2020,2021,2022  
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 ./bin/tests/system/acl/ns2/named7.conf.in CONF-C 2018,2019,2020,2021,2022  
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 ./bin/tests/system/acl/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/acl/ns4/example.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/acl/ns4/existing.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/acl/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/acl/setup.sh SH 2008,2012,2014,2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/additional/clean.sh SH 2013,2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/additional/ns1/mx.db ZONE 2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/additional/ns1/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/additional/ns1/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/additional/ns1/named3.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/additional/ns1/named4.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/additional/ns1/naptr.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/additional/ns1/naptr2.db ZONE 2013,2016,2018,2019,2020,2021,2022



./bin/tests/system/additional/ns1/nid.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/additional/ns1/root.db ZONE 2019,2020,2021,2022  
./bin/tests/system/additional/ns1/rt.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/additional/ns1/rt2.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/additional/ns1/srv.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/additional/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/additional/ns3/root.hint ZONE 2017,2018,2019,2020,2021,2022  
./bin/tests/system/additional/setup.sh SH 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/additional/tests.sh SH 2013,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/clean.sh SH 2010,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns1/inlineslave.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/added.db ZONE 2010,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/default.nzf.in X 2010,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/hints.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/inline.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/normal.db ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/previous.db ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns2/redirect.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns3/e.db ZONE 2017,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns3/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/addzone/ns3/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/addzone/setup.sh SH 2010,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/addzone/tests.sh SH 2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/clean.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns1/root.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/generic.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named01.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named02.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named03.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named04.conf.in CONF-C 2018,2019,2020,2021,2022  
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./bin/tests/system/allow-query/ns2/named07.conf.in CONF-C 2018,2019,2020,2021,2022  
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./bin/tests/system/allow-query/ns2/named09.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named10.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named11.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named12.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named21.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named22.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named23.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named24.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named25.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named26.conf.in CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/allow-query/ns2/named27.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named28.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named29.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named30.conf.in CONF-C 2018,2019,2020,2021,2022  
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./bin/tests/system/allow-query/ns2/named32.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named33.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named34.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named40.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named53.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named54.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named55.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named56.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns2/named57.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns3/named.args X 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/allow-query/tests.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/ans.pl PERL 2011,2012,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/auth/clean.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/auth/ns1/chaos.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/auth/ns1/example.com.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/auth/ns1/example.net.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/auth/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/auth/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/auth/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/auth/tests.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/autosign/clean.sh SH 2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns1/keygen.sh SH 2009,2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns1/root.db.in ZONE 2009,2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/Xbar.+005+30676.key X 2010,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/Xbar.+005+30676.private X 2010,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/Xbar.+005+30804.key X 2010,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/Xbar.+005+30804.private X 2010,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/bar.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/child.nsec3.example.db ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/child.optout.example.db ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/dst.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/example.db.in ZONE 2009,2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/insecure.secure.example.db ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/keygen.sh SH 2009,2010,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns2/private.secure.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns3/autonsec3.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns3/delay.example.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns3/delzsk.example.db.in ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/autosign/ns3/dname-at-apex-nsec3.example.db.in ZONE 2018,2019,2020,2021,2022



./bin/tests/system/autosign/ns3/inacksk2.example.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/inacksk3.example.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/inaczsk.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/inaczsk2.example.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/inaczsk3.example.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/insecure.example.db ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/jitter.nsec3.example.db.in ZONE 2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/keygen.sh SH  
 2009,2010,2011,2012,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/nozsk.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/nsec.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/nsec3-to-nsec.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/nsec3.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/nsec3.nsec3.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/nsec3.optout.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/oldsigs.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/optout.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/optout.nsec3.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/optout.optout.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/rsasha256.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/rsasha512.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/secure-to-insecure.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/secure-to-insecure2.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/secure.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/secure.nsec3.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/secure.optout.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/sync.example.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/ttl1.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/ttl2.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/ttl3.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns3/ttl4.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/prereq.sh SH 2009,2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/setup.sh SH 2009,2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/autosign/tests.sh SH 2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/builtin/clean.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/builtin/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/builtin/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/builtin/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/builtin/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/builtin/tests.sh SH 2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cachecclean/clean.sh SH 2001,2004,2007,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cachecclean/dig.batch X 2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/cachecclean/knowngood.dig.out X 2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/cachecclean/ns1/example.db ZONE 2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cachecclean/ns1/expire-test.db ZONE 2014,2016,2018,2019,2020,2021,2022



./bin/tests/system/cache/clean/ns1/flush.test.db ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cache/clean/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cache/clean/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cache/clean/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/cache/clean/tests.sh SH 2001,2004,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/clean.sh SH 2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/dynamic.good X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/ns1/dynamic.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/ns1/example.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/case/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/case/postns1.good X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/postupdate.good X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/setup.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/case/tests.sh SH 2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/clean.sh SH 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/ns1/catalog.example.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/ns1/named.conf.in CONF-C 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/ns2/named.conf.in CONF-C 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/ns3/dom5.example.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/ns3/dom6.example.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/ns3/named.conf.in CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/setup.sh SH 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/catz/tests.sh SH 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/README TXT.BRIEF 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ans3/ans.pl PERL 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ans4/README.anspy TXT.BRIEF 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ans4/ans.py PYTHON 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/clean.sh SH 2011,2012,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ns1/root.db ZONE 2011,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ns2/example.db ZONE 2011,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ns2/generic.db ZONE 2017,2018,2019,2020,2021,2022  
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 ./bin/tests/system/chain/ns2/sub.db ZONE 2017,2018,2019,2020,2021,2022  
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 ./bin/tests/system/chain/ns5/sub.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/ns7/root.hint ZONE 2017,2018,2019,2020,2021,2022  
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 ./bin/tests/system/chain/setup.sh SH 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/chain/tests.sh SH 2011,2012,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/altdb.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/altdlz.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/bad-also-notify.conf CONF-C 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/bad-catz-zone.conf CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/bad-dnssec.conf CONF-C 2012,2013,2016,2018,2019,2020,2021,2022



./bin/tests/system/checkconf/bad-hint.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-in-view-dup.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-inline-slave.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-ipv4-prefix-dotted1.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-ipv4-prefix2.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-keep-response-order.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-lifetime.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-lmdb-mapsize-bogus.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-lmdb-mapsize-toolarge.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-lmdb-mapsize-toosmall.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-lmdb-mapsize-unlimited.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-many.conf CONF-C 2005,2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-master-request-ixfr.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-maxttlmap.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-noddns.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-options-also-notify.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-acl.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-all-per-second.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-errors-per-second.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-ipv4-prefix-length.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-ipv6-prefix-length.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-max-table-size.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-nodata-per-second.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-nxdomain-per-second.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-qps-scale.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-referrals-per-second.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-responses-per-second.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-slip.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rate-limit-window.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-rpz-zone.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-sharedwritable1.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-sharedwritable2.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
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./bin/tests/system/checkconf/bad-sharedzone2.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-sharedzone3.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-stub-masters-dialup.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-tsig.conf CONF-C 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy1.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy10.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy11.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy12.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy13.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy14.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy15.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy2.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy3.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy4.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy5.conf CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/checkconf/bad-update-policy6.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy7.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy8.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-update-policy9.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/bad-view-also-notify.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-dlv-ksk-key.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-dup-records-fail.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
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./bin/tests/system/checkconf/check-mx-cname-fail.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-mx-cname.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-mx-fail.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
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./bin/tests/system/checkconf/check-names.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-root-ksk-2010.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-root-ksk-2017.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-root-ksk-both.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-srv-cname-fail.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/check-srv-cname.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/clean.sh SH 2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/dlz-bad.conf CONF-C 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/dnssec.1 CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/dnssec.2 CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/dnssec.3 CONF-C 2011,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-acl.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-class.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-dlv-dlv.example.com.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-dup-managed-key.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/checkconf/good-dup-trusted-key.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/checkconf/good-lmdb-mapsize-largest.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-lmdb-mapsize-smallest.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-nested.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-options-also-notify.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-response-dot.conf CONF-C 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy1.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy10.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy11.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy12.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy2.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy3.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy4.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy5.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy6.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy7.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy8.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-update-policy9.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checkconf/good-view-also-notify.conf CONF-C 2016,2018,2019,2020,2021,2022



./bin/tests/system/checkconf/good.conf CONF-C  
 2005,2007,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/hint-nofile.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/in-view-good.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/inline-bad.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/inline-good.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/inline-no.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/max-cache-size-good.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/max-ttl.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/maxttl-bad.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/maxttl-bad.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/maxttl.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/notify.conf CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/portrange-good.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/range.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/shared.example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/tests.sh SH  
 2005,2007,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/view-class-any1.conf CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/view-class-any2.conf CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/view-class-in1.conf CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/view-class-in2.conf CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/warn-address-prefix-length-mismatch.conf CONF-C 2020,2021,2022  
 ./bin/tests/system/checkconf/warn-dlv-auto.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/warn-dlv-dlv.isc.org.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/warn-duplicate-key.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/checkconf/warn-duplicate-root-key.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/checkconf/warn-keydir.conf CONF-C 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkconf/warn-validation-auto-key.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/checkds/clean.sh SH 2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/dig.bat BAT 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/dig.pl PERL 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/dig.sh SH 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/missing.example.dlv.example.dlv.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/missing.example.dnskey.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/missing.example.ds.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/none.example.dlv.example.dlv.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/none.example.dnskey.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/none.example.ds.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/ok.example.dlv.example.dlv.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/ok.example.dnskey.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/ok.example.ds.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/tests.sh SH 2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/wrong.example.dlv.example.dlv.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/wrong.example.dnskey.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkds/wrong.example.ds.db X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/checknames/clean.sh SH 2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checknames/ns1/fail.example.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022



./bin/tests/system/checknames/ns1/fail.update.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns1/ignore.example.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns1/ignore.update.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns1/root.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns1/warn.example.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns1/warn.update.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns2/root.hints ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns3/root.hints ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns4/master-ignore.update.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/checknames/ns4/root.hints ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/setup.sh SH 2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checknames/tests.sh SH 2004,2007,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/clean.sh SH 2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/tests.sh SH 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-badclass.raw X 2015,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-caa-rr.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-cdnskey.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-cds.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-dhcid.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-dns-sd-reverse.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-eid.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-generate-tkey.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-nimloc.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-nsap-empty.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-nsap-odd-nibble.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-nsec3-padded.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-nsec3owner-padded.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-tkey.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-tsig.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad-unspec.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad1.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad2.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad3.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/bad4.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/badttl.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/crashzone.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/delegating-ns-address-below-dname.db ZONE 2017,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/good-cdnskey.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/good-cds.db ZONE 2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/good-dns-sd-reverse.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/good-gc-msdcs.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/good-nsap.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/checkzone/zones/good-nsec3-nopadhash.db ZONE 2014,2016,2018,2019,2020,2021,2022



./bin/tests/system/checkzone/zones/good-occulted-ns-by-dname.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/good-occulted-ns-by-ns.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/good1.db ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/inherit.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/nowarn.inherited.owner.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/ns-address-below-dname.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/spf.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/test1.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/test2.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/warn.inherit.origin.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/checkzone/zones/warn.inherited.owner.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cleanall.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cleanpkcs11.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/common/controls.conf CONF-C 2000,2001,2004,2007,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/common/controls.conf.in CONF-C 2018,2019,2020,2021,2022  
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 ./bin/tests/system/common/rndc.key CONF-C 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/common/root.hint ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/conf.sh.in SH  
 2000,2001,2002,2003,2004,2005,2006,2007,2008,2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/conf.sh.win32 SH 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ans9/ans.py PYTHON 2020,2021,2022  
 ./bin/tests/system/cookie/bad-cookie-badaes.conf.in X 2019,2020,2021,2022  
 ./bin/tests/system/cookie/bad-cookie-badhex.conf CONF-C 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/bad-cookie-badsha1.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/bad-cookie-badsha256.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/bad-cookie-badsiphash24.conf X 2019,2020,2021,2022  
 ./bin/tests/system/cookie/bad-cookie-toolong.conf CONF-C 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/clean.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/good-cookie-aes.conf.in X 2019,2020,2021,2022  
 ./bin/tests/system/cookie/good-cookie-sha1.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/good-cookie-sha256.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/good-cookie-siphash24.conf X 2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns1/example.db ZONE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns1/root.hint ZONE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns2/root.db ZONE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns3/root.hint ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns4/root.hint ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns5/root.hint ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns6/root.hint ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/cookie/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022



.bin/tests/system/cookie/ns7/root.db ZONE 2018,2019,2020,2021,2022  
.bin/tests/system/cookie/ns8/example.db ZONE 2018,2019,2020,2021,2022  
.bin/tests/system/cookie/ns8/named.conf.in CONF-C 2018,2019,2020,2021,2022  
.bin/tests/system/cookie/prereq.sh SH 2020,2021,2022  
.bin/tests/system/cookie/setup.sh SH 2018,2019,2020,2021,2022  
.bin/tests/system/cookie/tests.sh SH 2014,2015,2016,2017,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/01-ksk-inactive/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/01-ksk-inactive/expect X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/02-zsk-inactive/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/02-zsk-inactive/expect X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/03-ksk-unpublished/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/03-ksk-unpublished/expect X 2013,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/04-zsk-unpublished/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/04-zsk-unpublished/expect X 2013,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/05-ksk-unpub-active/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/05-ksk-unpub-active/expect X 2013,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/06-zsk-unpub-active/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/06-zsk-unpub-active/expect X 2013,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/07-ksk-ttl/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/07-ksk-ttl/expect X 2013,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/08-zsk-ttl/README X 2013,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/08-zsk-ttl/expect X 2013,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/09-check-zsk/README X 2014,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/09-check-zsk/expect X 2014,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/10-check-ksk/README X 2014,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/10-check-ksk/expect X 2014,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/11-cutoff/README X 2014,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/11-cutoff/expect X 2014,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/12-ksk-deletion/expect X 2018,2019,2020,2021,2022  
.bin/tests/system/coverage/13-dotted-dotless/expect X 2019,2020,2021,2022  
.bin/tests/system/coverage/clean.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/setup.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
.bin/tests/system/coverage/tests.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
.bin/tests/system/database/clean.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
.bin/tests/system/database/ns1/named1.conf.in CONF-C 2011,2013,2018,2019,2020,2021,2022  
.bin/tests/system/database/ns1/named2.conf.in CONF-C 2011,2013,2018,2019,2020,2021,2022  
.bin/tests/system/database/setup.sh SH 2011,2012,2016,2018,2019,2020,2021,2022  
.bin/tests/system/database/tests.sh SH 2011,2012,2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/clean.sh SH 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/ns1/inlineslave.db ZONE 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/ns1/named.conf CONF-C 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/ns2/added.db ZONE 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/ns2/named.args X 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/ns2/named.conf CONF-C 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/ns2/normal.db ZONE 2016,2018,2019,2020,2021,2022  
.bin/tests/system/delzone/tests.sh SH 2016,2018,2019,2020,2021,2022  
.bin/tests/system/dialup/clean.sh SH 2019,2020,2021,2022



./bin/tests/system/dialup/ns1/example.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/ns1/named.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/ns2/hint.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/ns2/named.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/ns3/hint.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/ns3/named.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dialup/tests.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/digcomp.pl PERL 2000,2001,2004,2007,2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ans4/startme X 2017,2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ans7/ans.pl PERL 2020,2021,2022  
./bin/tests/system/digdelv/clean.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ns1/root.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ns2/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/prereq.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/digdelv/tests.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/ditch.pl PERL 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/clean.sh SH 2004,2007,2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns1/root.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns1/rootservers.utld.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns1/sign.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns2/druz.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns2/hints ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns2/sign.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns2/utld.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns3/child.db.in ZONE 2004,2007,2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns3/dlv.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns3/hints ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns3/sign.sh SH 2004,2007,2009,2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns4/child.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns4/hints ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns5/hints ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns5/rndc.conf CONF-C 2004,2007,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns6/child.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns6/hints ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns6/sign.sh SH 2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dlv/ns7/hints ZONE 2019,2020,2021,2022  
./bin/tests/system/dlv/ns7/named.conf.in CONF-C 2019,2020,2021,2022



./bin/tests/system/dlv/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlv/setup.sh SH 2004,2007,2009,2011,2012,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlv/tests.sh SH 2004,2007,2010,2011,2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/clean.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/broken/dns.d/@/DNAME=10=example.net.= TXT.BRIEF  
2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/broken/dns.d/@/NS=10=example.com.= TXT.BRIEF  
2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/broken/dns.d/@/SOA=10=ns.example.com.=root.example.com.=None=None=None=None=None= TXT.BRIEF 2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/example/dns.d/@/DNAME=10=example.net.= TXT.BRIEF  
2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/example/dns.d/@/NS=10=example.com.= TXT.BRIEF  
2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/example/dns.d/@/SOA=10=ns.example.com.=root.example.com.=2010062900=0=0=0=10= TXT.BRIEF  
2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/dns-root/com/example/xfr.d/10.53.0.1 TXT.BRIEF 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dlz/prereq.sh SH 2011,2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlz/setup.sh SH 2018,2019,2020,2021,2022

./bin/tests/system/dlz/tests.sh SH 2010,2011,2012,2013,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/Makefile.in MAKE 2011,2012,2014,2015,2016,2017,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/clean.sh SH 2010,2012,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/driver.c C 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/driver.h C 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/ns1/dlzs.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/ns1/named.conf.in CONF-C 2011,2012,2013,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/ns1/root.db ZONE 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/prereq.sh SH 2010,2011,2012,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/setup.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dlzexternal/tests.sh SH 2010,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/clean.sh SH 2010,2012,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad1.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad18.conf CONF-C 2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad19.conf CONF-C 2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad2.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad3.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad4.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad5.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad6.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad7.conf CONF-C 2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad8.conf CONF-C 2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/bad9.conf CONF-C 2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/good1.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/good2.conf CONF-C 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dns64/conf/good3.conf CONF-C 2010,2016,2018,2019,2020,2021,2022



./bin/tests/system/dns64/conf/good4.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/good5.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn1.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn2.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn3.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn4.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn5.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn6.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn7.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/conf/warn8.conf CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/dns64/ns1/example.db ZONE 2010,2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/ns1/root.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/ns1/sign.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/ns2/rpz.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/setup.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dns64/tests.sh SH 2010,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/README TXT.BRIEF 2000,2001,2002,2004,2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ans10/ans.py PYTHON 2020,2021,2022  
 ./bin/tests/system/dnssec/clean.sh SH  
 2000,2001,2002,2004,2007,2008,2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/dnssec\_update\_test.pl PERL 2002,2004,2007,2010,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns1/root.db.in ZONE  
 2000,2001,2004,2007,2010,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns1/sign.sh SH  
 2000,2001,2002,2003,2004,2006,2007,2008,2009,2010,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/algroll.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/badparam.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/cdnskey-auto.secure.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/cdnskey-update.secure.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/cdnskey.secure.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/cds-auto.secure.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/cds-update.secure.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/cds.secure.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/child.nsec3.example.db ZONE 2006,2008,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/child.optout.example.db ZONE 2006,2008,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/dlv.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/dst.example.db.in ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/example.db.in ZONE  
 2000,2001,2002,2004,2007,2008,2009,2010,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/in-addr.arpa.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/insecure.secure.example.db ZONE  
 2000,2001,2004,2007,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/key.db.in ZONE 2019,2020,2021,2022  
 ./bin/tests/system/dnssec/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/dnssec/ns2/private.secure.example.db.in ZONE  
2000,2001,2004,2007,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns2/rfc2335.example.db X 2004,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns2/sign.sh SH  
2000,2001,2002,2003,2004,2006,2007,2008,2009,2010,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns2/single-nsec3.db.in ZONE 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns2/template.secure.db.in ZONE 2019,2020,2021,2022

./bin/tests/system/dnssec/ns2/too-many-iterations.db.in ZONE 2021,2022

./bin/tests/system/dnssec/ns3/auto-nsec.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/auto-nsec3.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/bogus.example.db.in ZONE  
2000,2001,2004,2007,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/dname-at-apex-nsec3.example.db.in ZONE 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/dnskey-nsec3-unknown.example.db.in ZONE 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/dnskey-unknown.example.db.in ZONE 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/dnskey-unsupported-2.example.db.in ZONE 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/dnskey-unsupported.example.db.in ZONE 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/dynamic.example.db.in ZONE 2002,2004,2007,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/expired.example.db.in ZONE 2011,2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/expiring.example.db.in ZONE 2011,2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/future.example.db.in ZONE 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/generic.example.db.in ZONE 2001,2002,2004,2007,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/inline.example.db ZONE 2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/insecure.below-cname.example.db ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/insecure.example.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/insecure.nsec3.example.db ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/insecure.optout.example.db ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/key.db.in ZONE 2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/kskonly.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/lower.example.db.in ZONE 2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/managed-future.example.db.in ZONE 2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/multiple.example.db.in ZONE 2006,2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/nosign.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/nsec3-unknown.example.db.in ZONE 2006,2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/nsec3.example.db.in ZONE 2006,2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/nsec3.nsec3.example.db.in ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/nsec3.optout.example.db.in ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/occluded.example.db.in ZONE 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/optout-unknown.example.db.in ZONE 2006,2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/optout.example.db.in ZONE 2006,2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/optout.nsec3.example.db.in ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/optout.optout.example.db.in ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/publish-inactive.example.db.in ZONE 2013,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/rsasha256.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/rsasha512.example.db.in ZONE 2009,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/secure.below-cname.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/secure.example.db.in ZONE



2000,2001,2004,2007,2008,2010,2012,2013,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/secure.nsec3.example.db.in ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/secure.optout.example.db.in ZONE 2008,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/siginterval.example.db.in ZONE 2013,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/siginterval1.conf CONF-C 2013,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/siginterval2.conf CONF-C 2013,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/sign.sh SH

2000,2001,2002,2004,2006,2007,2008,2009,2010,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/split-dnssec.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/split-smart.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/ttlpatch.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/unsupported-algorithm.key X 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/update-nsec3.example.db.in ZONE 2011,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns3/upper.example.db.in ZONE 2012,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns4/named1.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns4/named2.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns4/named3.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns4/named4.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns4/named5.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns5/named1.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns5/named2.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns5/sign.sh SH 2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns5/trusted.conf.bad CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns6/named.args X 2013,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns6/optout-tld.db.in ZONE 2013,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns6/sign.sh SH 2013,2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns7/named.nosoa TXT.BRIEF 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns7/nosoa.secure.example.db ZONE 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns7/sign.sh SH 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns7/split-rrsig.db.in ZONE 2014,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/ns8/named.conf.in CONF-C 2019,2020,2021,2022

./bin/tests/system/dnssec/ns9/named.conf.in CONF-C 2019,2020,2021,2022

./bin/tests/system/dnssec/ntadiff.pl PERL 2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/prereq.sh SH

2000,2001,2002,2004,2006,2007,2009,2012,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/setup.sh SH

2000,2001,2004,2007,2009,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/signer/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+005+07065.key X 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+005+07065.private X 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+005+23362.key X 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+005+23362.private X 2018,2019,2020,2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+008+15002.key X 2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+008+15002.private X 2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+008+63613.key X 2021,2022

./bin/tests/system/dnssec/signer/general/Kexample.com.+008+63613.private X 2021,2022



./bin/tests/system/dnssec/signer/general/bogus-ksk.key X 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/bogus-zsk.key X 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test1.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test2.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test3.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test4.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test5.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test6.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test7.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test8.zone ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/general/test9.zone ZONE 2021,2022  
./bin/tests/system/dnssec/signer/remove.db.in ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/signer/remove2.db.in ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnssec/tests.sh SH  
2000,2001,2002,2004,2005,2006,2007,2008,2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/README TXT.BRIEF 2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-buffer-hint-max.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-buffer-hint-min.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-flush-timeout-max.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-flush-timeout-min.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-input-queue-size-max.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-input-queue-size-min.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-input-queue-size-po2.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-output-notify-threshold.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-output-queue-size-max.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-output-queue-size-min.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-reopen-interval-max.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-fstrm-set-reopen-interval-min.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-missing-dnstap-output-view.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/dnstap/bad-missing-dnstap-output.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/dnstap/clean.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-dnstap-in-options.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/dnstap/good-dnstap-in-view.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-buffer-hint.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-flush-timeout.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-input-queue-size.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-output-notify-threshold.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-output-queue-model-mpsc.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-output-queue-model-spsc.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-output-queue-size.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/good-fstrm-set-reopen-interval.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/large-answer.fstrm X 2019,2020,2021,2022  
./bin/tests/system/dnstap/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/ns1/root.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/ns2/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/dnstap/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/dnstap/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dnstap/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dnstap/tests.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/dnstap/ydump.py PYTHON 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/clean.sh SH 2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns1/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns1/root.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns2/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns3/hint.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns3/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns4/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns4/root.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns5/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns6/hint.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns6/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns7/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dscp/tests.sh SH 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/clean.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns1/root.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns1/sign.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns2/bad.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns2/good.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns2/sign.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/prereq.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/setup.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dsdigest/tests.sh SH 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/check\_journal.pl PERL 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/clean.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/ns1/named.args X 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/ns1/reset\_keys.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/ns1/signing.test.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/prereq.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dupsigs/tests.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/Makefile.in MAKE 2015,2016,2018,2019,2020,2021,2022



./bin/tests/system/dyndb/clean.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/AUTHORS X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/COPYING X 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/Makefile.in MAKE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/README X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/db.c X 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/db.h X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/driver.c X 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/instance.c X 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/instance.h X 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/lock.c X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/lock.h X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/log.c X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/log.h X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/syncptr.c X 2015,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/syncptr.h X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/util.h X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/zone.c X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/driver/zone.h X 2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/prereq.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/dyndb/tests.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/clean.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/ns1/named.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/ns1/root.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/ns1/sign.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/ns2/named.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/prereq.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/setup.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ecdsa/tests.sh SH 2012,2013,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/clean.sh SH 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns1/named.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns1/root.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns1/sign.sh SH 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+015+03613.key X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+015+03613.private X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+015+35217.key X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+015+35217.private X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+016+09713.key X 2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+016+09713.private X 2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+016+38353.key X 2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/Xexample.com.+016+38353.private X 2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/example.com.db ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/named.conf CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/ns2/sign.sh SH 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/prereq.sh SH 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/eddsa/setup.sh SH 2017,2018,2019,2020,2021,2022



./bin/tests/system/eddsa/tests.sh SH 2017,2018,2019,2020,2021,2022  
./bin/tests/system/ednscompliance/clean.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ednscompliance/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/ednscompliance/ns1/root.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ednscompliance/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/ednscompliance/tests.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/clean.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/ns1/empty.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/ns1/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/ns1/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/ns1/rfc1918.zones CONF-C 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/ns1/root.hint ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/emptyzones/tests.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/feature-test.c C 2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ans4/ans.pl PERL 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/clean.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns1/root.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns2/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns3/named.args X 2015,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns3/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns3/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns3/named3.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/ns3/root.hint ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/prereq.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/setup.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/fetchlimit/tests.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/clean.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/bad1.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/bad2.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/bad3.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/bad4.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/bad5.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/bad6.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good1.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good2.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good3.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good4.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good5.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good6.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good7.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/conf/good8.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns1/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns1/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns1/root.db ZONE 2010,2012,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns1/sign.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022



./bin/tests/system/filter-aaaa/ns1/signed.db.in ZONE 2010,2012,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns1/signed.db.presigned X 2014,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns1/unsigned.db ZONE 2010,2012,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns2/hints ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns2/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns2/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns3/hints ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns3/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns3/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/root.db ZONE 2010,2012,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/sign.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/signed.db.in ZONE 2010,2012,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/signed.db.presigned X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns4/unsigned.db ZONE 2010,2012,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns5/hints ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/prereq.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/setup.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/filter-aaaa/tests.sh SH 2010,2012,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/clean.sh SH 2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/formerr.pl PERL 2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/nametoolong X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/noquestions X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/formerr/ns1/root.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/formerr/tests.sh SH 2013,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/formerr/twoquestions X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ans6/startme X 2019,2020,2021,2022  
./bin/tests/system/forward/clean.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns1/example.db X 2000,2001,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns2/example.db X 2000,2001,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns2/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns3/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns4/malicious.db ZONE 2020,2021,2022  
./bin/tests/system/forward/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns4/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns5/rebind.db ZONE 2020,2021,2022  
./bin/tests/system/forward/ns5/root.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ns7/named.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/forward/ns7/root.db ZONE 2019,2020,2021,2022



./bin/tests/system/forward/prereq.sh SH 2019,2020,2021,2022  
./bin/tests/system/forward/rfc1918-inherited.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/rfc1918-notinherited.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/forward/tests.sh SH 2000,2001,2004,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ula-inherited.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/forward/ula-notinherited.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/genzone.sh SH  
2001,2002,2003,2004,2007,2009,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/clean.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIP.csv X 2013,2014,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIP.dat X 2013,2014,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPASNum.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPASNum.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPASNumv6.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPASNumv6.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPCity.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPCity.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPCityv6.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPCityv6.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPDomain.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPDomain.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPISP.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPISP.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPNetSpeed.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPNetSpeed.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPOrg.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPOrg.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPRegion.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPRegion.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPv6.csv X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/GeoIPv6.dat X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/data/README TXT.BRIEF 2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/example.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named10.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named11.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named12.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named13.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named14.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named15.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named16.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named3.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named4.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named5.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named6.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named7.conf.in CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/geoip/ns2/named8.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/ns2/named9.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/geoip/options.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/prereq.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/setup.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip/tests.sh SH 2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/geoip2/clean.sh SH 2019,2020,2021,2022  
./bin/tests/system/geoip2/conf/bad-areacode.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/conf/bad-dbname.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/conf/bad-netspeed.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/conf/bad-regiondb.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/conf/bad-threeletter.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/conf/good-options.conf CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-City.json X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-City.mmdb X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-Country.json X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-Country.mmdb X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-Domain.json X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-Domain.mmdb X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-ISP.json X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoIP2-ISP.mmdb X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoLite2-ASN.json X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/GeoLite2-ASN.mmdb X 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/README.md MKD 2019,2020,2021,2022  
./bin/tests/system/geoip2/data/write-test-data.pl PERL 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/example.db.in ZONE 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named1.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named10.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named11.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named12.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named13.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named14.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named2.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named3.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named4.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named5.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named6.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named7.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named8.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/ns2/named9.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/geoip2/prereq.sh SH 2019,2020,2021,2022  
./bin/tests/system/geoip2/setup.sh SH 2019,2020,2021,2022  
./bin/tests/system/geoip2/tests.sh SH 2019,2020,2021,2022  
./bin/tests/system/glue/clean.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/glue/fi.good X 2000,2001,2018,2019,2020,2021,2022  
./bin/tests/system/glue/nogluue.good X 2000,2001,2018,2019,2020,2021,2022  
./bin/tests/system/glue/ns1/cache.in ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/glue/ns1/mil.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022



./bin/tests/system/glue/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/ns1/net.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/ns1/root-servers.nil.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/setup.sh SH 2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/tests.sh SH 2000,2001,2003,2004,2007,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/xx.good X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/glue/yy.good X 2000,2001,2003,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/clean.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/ns1/named.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/ns1/root.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/ns1/sign.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/ns2/named.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/prereq.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/setup.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/gost/tests.sh SH 2010,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/idna/clean.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/idna/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/idna/ns1/root.db ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/idna/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/idna/tests.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/ifconfig.bat BAT 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/ifconfig.sh SH  
 2000,2001,2002,2003,2004,2007,2008,2009,2010,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/checkdsa.sh.in SH 2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/clean.sh SH 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns1/root.db.in ZONE 2011,2012,2013,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns1/sign.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns2/bits.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns2/nsec3-loop.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/master.db.in ZONE 2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/master2.db.in ZONE 2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/master3.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/master4.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/master5.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/master6.db.in ZONE 2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns3/sign.sh SH 2011,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns4/noixfr.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns5/named.conf.post CONF-C 2011,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns5/named.conf.pre CONF-C 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns7/sign.sh SH 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/inline/ns8/example.com.db.in ZONE 2020,2021,2022



./bin/tests/system/inline/ns8/named.conf.in CONF-C 2020,2021,2022  
./bin/tests/system/inline/ns8/sign.sh SH 2020,2021,2022  
./bin/tests/system/inline/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/inline/setup.sh SH 2011,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/inline/tests.sh SH 2011,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/integrity/clean.sh SH 2017,2018,2019,2020,2021,2022  
./bin/tests/system/integrity/ns1/mx-cname.db ZONE 2017,2018,2019,2020,2021,2022  
./bin/tests/system/integrity/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
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./bin/tests/system/integrity/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/integrity/tests.sh SH 2017,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ans2/startme X 2011,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/clean.sh SH 2001,2004,2007,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns1/startme X 2012,2013,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns3/mytest0.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns3/mytest1.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns3/mytest2.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns3/subtest0.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns3/subtest1.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/ns5/named.conf.in CONF-C 2019,2020,2021,2022  
./bin/tests/system/ixfr/prereq.sh SH 2001,2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/setup.sh SH 2001,2004,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/ixfr/tests.sh SH 2001,2004,2007,2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/01-ksk-inactive/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/01-ksk-inactive/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/02-zsk-inactive/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/02-zsk-inactive/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/03-ksk-unpublished/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/03-ksk-unpublished/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/04-zsk-unpublished/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/04-zsk-unpublished/expect X 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/05-ksk-unpub-active/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/06-zsk-unpub-active/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/06-zsk-unpub-active/expect X 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/07-ksk-ttl/expect X 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/09-no-keys/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/10-change-roll/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/11-many-simul/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/11-many-simul/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/12-many-active/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022



./bin/tests/system/keymgr/12-many-active/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/13-noroll/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/13-noroll/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/14-wrongalg/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/14-wrongalg/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/15-unspec/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/15-unspec/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/16-wrongalg-unspec/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/16-wrongalg-unspec/expect X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/17-noforce/README.TXT.BRIEF 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/17-noforce/expect X 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/18-nonstd-prepub/expect X 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/19-old-keys/README.TXT.BRIEF 2019,2020,2021,2022  
./bin/tests/system/keymgr/19-old-keys/expect X 2019,2020,2021,2022  
./bin/tests/system/keymgr/19-old-keys/extra.sh SH 2019,2020,2021,2022  
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./bin/tests/system/keymgr/clean.sh SH 2016,2018,2019,2020,2021,2022  
./bin/tests/system/keymgr/policy.conf CONF-C 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/prereq.sh SH 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/keymgr/tests.sh SH 2016,2018,2019,2020,2021,2022  
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./bin/tests/system/legacy/ns1/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns1/root.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns1/trusted.conf X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns10/ednsrefused.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns10/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns10/named.ednsrefused X 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns2/dropedns.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns2/named.dropedns X 2014,2018,2019,2020,2021,2022  
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./bin/tests/system/legacy/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns3/named.dropedns X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns3/named.notcp X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns4/named.args X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns4/plain.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns5/named.args X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/legacy/ns5/named.notcp X 2014,2018,2019,2020,2021,2022



./bin/tests/system/legacy/ns5/plain-notcp.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns6/edns512.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns6/edns512.db.signed X 2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns6/named.args X 2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns6/sign.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns7/edns512-notcp.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns7/edns512-notcp.db.signed X 2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns7/named.args X 2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns7/named.notcp X 2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns7/sign.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns8/ednsformerr.db ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns8/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns8/named.ednsformerr X 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns9/ednsnotimp.db ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns9/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/ns9/named.ednsnotimp X 2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/legacy/tests.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/clean.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/knowngood.dig.out.1000 X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/knowngood.dig.out.2000 X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/knowngood.dig.out.3000 X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/knowngood.dig.out.4000 X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/knowngood.dig.out.a-maximum-rrset X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/ns1/example.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/limits/tests.sh SH 2000,2001,2004,2007,2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/clean.sh SH 2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/controls.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.dirconf CONF-C 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.pipeconf CONF-C 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.plain CONF-C 2011,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.plainconf CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.symconf CONF-C 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.unlimited CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/named.versconf CONF-C 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/rndc.conf.in CONF-C 2011,2013,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/ns1/root.db ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/setup.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/logfileconfig/tests.sh SH 2011,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/lwresd/Makefile.in MAKE  
 2000,2001,2002,2004,2007,2009,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/lwresd/clean.sh SH 2008,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/lwresd/lwresd1/lwresd.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022



./bin/tests/system/lwresd/lwresd1/nosearch.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/lwresd1/resolv.conf CONF-SH  
2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/lwtest.c C  
2000,2001,2002,2004,2007,2008,2012,2013,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/10.10.10.in-addr.arpa.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/e.example1.db X 2008,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/example1.db ZONE  
2000,2001,2002,2003,2004,2007,2008,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/example2.db ZONE 2000,2001,2002,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/ip6.arpa.db ZONE 2000,2001,2002,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/ip6.int.db ZONE 2000,2001,2002,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/named.conf CONF-C  
2000,2001,2004,2006,2007,2008,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/resolv.conf CONF-SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/lwresd/tests.sh SH 2000,2001,2004,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/clean.sh SH 2001,2004,2007,2010,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/knowngood.dig.out X 2001,2004,2012,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns1/include.db ZONE 2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns1/sub.db ZONE 2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns1/ttl1.db ZONE 2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns1/ttl2.db ZONE 2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns2/example.db ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/tests.sh SH 2001,2004,2007,2010,2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/zone/inheritownerafterinclude.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/zone/inheritownerafterinclude.good X 2015,2018,2019,2020,2021,2022  
./bin/tests/system/masterfile/zone/nameservers.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/clean.sh SH 2005,2007,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns1/compile.sh SH  
2005,2006,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns1/example.db ZONE 2005,2007,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns1/large.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns1/signed.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns2/formerly-text.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/setup.sh SH 2005,2006,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/masterformat/tests.sh SH 2005,2007,2011,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/metadata/child.db ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/metadata/clean.sh SH 2009,2011,2012,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/metadata/parent.db ZONE 2009,2016,2018,2019,2020,2021,2022  
./bin/tests/system/metadata/prereq.sh SH 2009,2012,2014,2016,2018,2019,2020,2021,2022



./bin/tests/system/metadata/setup.sh SH 2009,2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/metadata/tests.sh SH 2009,2011,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/README TXT.BRIEF 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/clean.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns1/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns1/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns1/named3.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns1/root.db ZONE 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns1/sign.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns1/unsupported.key X 2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns2/named.args X 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns3/named.args X 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns5/named1.args X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns5/named2.args X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns6/named.args X 2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns6/named.conf.in CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns6/setup.sh SH 2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns6/unsupported-managed.key X 2019,2020,2021,2022  
 ./bin/tests/system/mkeys/ns7/named.conf.in CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/mkeys/prereq.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/setup.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/mkeys/tests.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/names/clean.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/names/ns1/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/names/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/names/setup.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/names/tests.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/clean.sh SH 2000,2001,2004,2007,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns2/example1.db ZONE 2000,2001,2002,2004,2007,2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns2/example2.db ZONE 2000,2001,2002,2004,2007,2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns2/example3.db ZONE 2000,2001,2002,2004,2007,2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns2/example4.db ZONE 2000,2001,2002,2004,2007,2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns2/generic.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns4/named.port.in X 2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/ns5/x21.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/setup.sh SH 2000,2001,2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/notify/tests.sh SH  
 2000,2001,2004,2007,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nslookup/clean.sh SH 2014,2015,2016,2018,2019,2020,2021,2022



./bin/tests/system/nslookup/ns1/example.net.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nslookup/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nslookup/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nslookup/tests.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ans4/ans.pl PERL 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/clean.sh SH  
 2000,2001,2004,2007,2009,2010,2011,2012,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/commandlist X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/knowngood.ns1.after X 2000,2001,2003,2004,2009,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/knowngood.ns1.afterstop X 2001,2004,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/knowngood.ns1.before X 2000,2001,2003,2004,2009,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/krb/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns1/example1.db ZONE  
 2000,2001,2002,2004,2007,2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns1/many.test.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns1/max-ttl.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns1/sample.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns10/dns.keytab X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns10/example.com.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns10/in-addr.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns10/machine.ccach X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns10/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns2/sample.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/delegation.test.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/dnskey.test.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/nsec3param.test.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/sign.sh SH 2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns3/too-big.test.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns5/local.db.in ZONE 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns5/named.args X 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns5/named.conf.in CONF-C 2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns6/in-addr.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns6/named.args X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns7/dns.keytab X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns7/example.com.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns7/in-addr.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns7/machine.ccach X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns8/dns-other-than-KRB5\_KTNAME.keytab X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns8/example.com.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns8/in-addr.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns8/machine.ccach X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns8/named.conf.in CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/nsupdate/ns9/dns.keytab X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns9/example.com.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns9/in-addr.db.in ZONE 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns9/machine.ccache X 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/ns9/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/prereq.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/setup.sh SH  
 2000,2001,2004,2007,2009,2010,2011,2012,2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/tests.sh SH  
 2000,2001,2004,2007,2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/update\_test.pl PERL 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nsupdate/verylarge.in X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/system/nzd2nzf/clean.sh SH 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nzd2nzf/ns1/added.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nzd2nzf/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/nzd2nzf/prereq.sh SH 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nzd2nzf/setup.sh SH 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/nzd2nzf/tests.sh SH 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/org.isc.bind.system SH 2010,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/org.isc.bind.system.plist X 2010,2018,2019,2020,2021,2022  
 ./bin/tests/system/packet.pl PERL 2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/parallel.sh SH 2019,2020,2021,2022  
 ./bin/tests/system/pending/clean.sh SH 2009,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns1/root.db.in ZONE 2009,2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns1/sign.sh SH 2009,2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns2/example.com.db.in ZONE 2009,2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns2/example.db.in ZONE 2009,2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns2/forgery.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns2/sign.sh SH 2009,2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns3/hostile.db ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns3/mail.example.db ZONE 2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/prereq.sh SH 2009,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/setup.sh SH 2009,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pending/tests.sh SH 2009,2010,2012,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/Makefile.in MAKE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/clean.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/input X 2014,2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/inputb X 2014,2015,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/ns1/root.db ZONE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/ns2/examplea.db ZONE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/ns3/exampleb.db ZONE 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/pipelined/ns3/named.args X 2014,2015,2018,2019,2020,2021,2022



./bin/tests/system/pipelined/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/pipelined/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/pipelined/pipequeries.c C 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pipelined/ref X 2014,2015,2018,2019,2020,2021,2022  
./bin/tests/system/pipelined/refb X 2014,2015,2018,2019,2020,2021,2022  
./bin/tests/system/pipelined/setup.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pipelined/tests.sh SH 2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11/2037-pk11\_numbits-crash-test.pkt X 2020,2021,2022  
./bin/tests/system/pkcs11/clean.sh SH 2010,2012,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11/ns1/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11/ns1/named.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11/setup.sh SH 2010,2012,2013,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11/tests.sh SH 2010,2012,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11/usepkcs11 X 2010,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/clean.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/ns1/example.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/ns1/named.conf CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/tests.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/pkcs11ssl/usepkcs11 X 2014,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/README TXT.BRIEF 2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ans2/ans.pl PERL 2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ans4/ans.pl PERL 2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ans7/ans.pl PERL 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/clean.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns1/root.db ZONE 2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns3/hints.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns3/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns3/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns3/named3.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/ns3/named4.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/prereq.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/reclimit/tests.sh SH 2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/clean.sh SH 2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/bad1.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/bad2.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/bad3.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/good1.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/good2.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/good3.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/conf/good4.conf CONF-C 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns1/example.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns1/redirect.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns1/root.db ZONE 2011,2016,2018,2019,2020,2021,2022



./bin/tests/system/redirect/ns1/sign.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns2/example.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns2/redirect.db.in ZONE 2011,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns3/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns3/redirect.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns3/root.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns3/sign.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns4/example.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/redirect/ns4/root.hint ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/setup.sh SH 2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/redirect/tests.sh SH 2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ans2/ans.pl PERL 2000,2001,2004,2007,2009,2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ans3/ans.pl PERL 2000,2001,2004,2007,2009,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ans8/ans.pl PERL 2017,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/clean.sh SH 2008,2009,2010,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns1/root.hint ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/broken.db ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/child.server.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/moves.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/named.noaa TXT.BRIEF 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/root.db ZONE 2010,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/sourcens.db ZONE 2020,2021,2022  
./bin/tests/system/resolver/ns4/tld1.db ZONE 2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns4/tld2.db ZONE 2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns5/child.server.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns5/moves.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns5/root.hint ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/broken.db ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/delegation-only.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/ds.example.net.db.in ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/example.net.db.in ZONE 2010,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/keygen.sh SH 2010,2012,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/moves.db ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/no-edns-version.tld.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/root.db ZONE 2010,2011,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns6/targetns.db ZONE 2020,2021,2022  
./bin/tests/system/resolver/ns6/to-be-removed.tld.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns7/all-cnames.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns7/edns-version.tld.db ZONE 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns7/named.args X 2011,2012,2014,2018,2019,2020,2021,2022



./bin/tests/system/resolver/ns7/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns7/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns7/root.hint ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/ns7/server.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/prereq.sh SH 2000,2001,2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/setup.sh SH 2010,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/resolver/tests.sh SH  
2000,2001,2004,2007,2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/Makefile.in MAKE 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/clean.sh SH 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/gencheck.c C 2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns2/incl.db ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns2/secondkey.conf CONF-C 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns4/named.conf.in CONF-C 2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns6/named.args X 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/ns6/named.conf.in CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/setup.sh SH 2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rndc/tests.sh SH 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/clean.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns1/root.db.in ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns1/sign.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns2/example.db.in ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns2/sign.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns3/hint.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns4/hint.db ZONE 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/prereq.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rootkeysentinel/tests.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rpz/README TXT.BRIEF 2019,2020,2021,2022  
./bin/tests/system/rpz/clean.sh SH 2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns1/root.db ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns2/base-tld2s.db ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns2/bl.tld2.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns2/blv2.tld2.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns2/blv3.tld2.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns2/hints ZONE 2011,2013,2016,2018,2019,2020,2021,2022  
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./bin/tests/system/rpz/ns2/tld2.db ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns3/base.db ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpz/ns3/broken.db.in ZONE 2019,2020,2021,2022



./bin/tests/system/rpz/ns3/crash1 X 2011,2013,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns3/crash2 X 2011,2012,2013,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns3/hints ZONE 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns3/manual-update-rpz-2.db.in ZONE 2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns3/manual-update-rpz.db.in ZONE 2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns4/hints ZONE 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns4/tld4.db ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns5/empty.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns5/hints ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns5/named.args X 2013,2014,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns5/tld5.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns6/hints ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/ns7/hints ZONE 2014,2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/rpz/ns9/hints ZONE 2019,2020,2021,2022  
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 ./bin/tests/system/rpz/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/qperf.sh SH 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/setup.sh SH 2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test1 ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test2 ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test3 ZONE 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test4 ZONE 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test4a ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test5 ZONE 2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/test6 ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpz/tests.sh SH 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/README TXT.BRIEF 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ans5/ans.pl PERL 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/clean.sh SH 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns1/db.10 ZONE 2015,2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/rpzrecurse/ns1/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns1/root.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns1/test1.example.net.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns1/test2.example.net.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns2/db.clientip1 ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns2/db.clientip2 ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns2/db.clientip21 ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns2/db.given ZONE 2020,2021,2022  
 ./bin/tests/system/rpzrecurse/ns2/db.log1 ZONE 2015,2016,2018,2019,2020,2021,2022



./bin/tests/system/rpzrecurse/ns2/db.log2 ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/db.log3 ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/db.passthru ZONE 2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/db.wildcard1 ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/db.wildcard2a ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/db.wildcard2b ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/db.wildcard3 ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.clientip.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.clientip2.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.conf.header.in CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.default.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.log.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.wildcard1.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.wildcard2.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.wildcard3.conf CONF-C 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/named.wildcard4.conf CONF-C 2020,2021,2022  
./bin/tests/system/rpzrecurse/ns2/root.hint ZONE 2015,2016,2018,2019,2020,2021,2022  
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./bin/tests/system/rpzrecurse/ns3/named2.conf.in CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns3/policy.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns3/root.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns4/child.example.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/ns4/named.conf.in CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/prereq.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/setup.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/testgen.pl PERL 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rpzrecurse/tests.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrchecker/classlist.good X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/rrchecker/clean.sh SH 2013,2014,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/rrchecker/privatelist.good X 2013,2018,2019,2020,2021,2022  
./bin/tests/system/rrchecker/tests.sh SH 2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/rrchecker/typelist.good X 2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/broken.conf CONF-C 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/clean.sh SH 2012,2013,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns1/root.db ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns2/hints ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns2/tld2.db ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns3/hints ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
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./bin/tests/system/rrl/ns4/hints ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrl/ns4/tld4.db ZONE 2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/setup.sh SH 2012,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrl/tests.sh SH 2012,2013,2015,2016,2018,2019,2020,2021,2022



./bin/tests/system/rrsetorder/clean.sh SH 2006,2007,2008,2011,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.fixed.good X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good1 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good10 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good11 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good12 X 2006,2018,2019,2020,2021,2022  
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./bin/tests/system/rrsetorder/dig.out.random.good14 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good15 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good16 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good17 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good18 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good19 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good2 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good20 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good21 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good22 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good23 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good24 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good3 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good4 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good5 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good6 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good7 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good8 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/dig.out.random.good9 X 2006,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/ns1/root.db ZONE 2006,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/rrsetorder/tests.sh SH 2006,2007,2008,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/Makefile.in MAKE 2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/README.md TXT.BRIEF 2021,2022  
./bin/tests/system/rsabigexponent/bigkey.c C 2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/clean.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/conf/bad01.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/conf/bad02.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/conf/bad03.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/conf/good01.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/conf/good02.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/conf/good03.conf CONF-C 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/ns1/root.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/ns1/sign.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/ns2/Xexample.+005+05896.key X 2012,2018,2019,2020,2021,2022  
./bin/tests/system/rsabigexponent/ns2/Xexample.+005+05896.private X 2012,2018,2019,2020,2021,2022



./bin/tests/system/rsabigexponent/ns2/Xexample.+005+51829.key X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/rsabigexponent/ns2/Xexample.+005+51829.private X 2012,2018,2019,2020,2021,2022  
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 ./bin/tests/system/rsabigexponent/ns2/example.db.in ZONE 2012,2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/rsabigexponent/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/rsabigexponent/prereq.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rsabigexponent/setup.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/rsabigexponent/tests.sh SH 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/run.gdb X 2019,2020,2021,2022  
 ./bin/tests/system/run.sh SH 2000,2001,2004,2007,2010,2012,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runall.sh SH 2000,2001,2004,2007,2010,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/runsequential.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/README TXT.BRIEF 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/clean.sh SH 2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt1.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt2.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt3.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt4.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt5.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt6.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named-alt9.conf.in CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/runtime/ns2/named1.conf.in CONF-C 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/setup.sh SH 2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/runtime/tests.sh SH 2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/send.pl PERL 2001,2004,2007,2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/setup.sh SH 2000,2001,2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/README TXT.BRIEF 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/clean.sh SH 2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns1/root.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns1/sign.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns2/example.db.in ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns2/sign.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/ns5/trusted.conf.bad CONF-C 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/setup.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sfcache/tests.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/smartsign/child.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/smartsign/clean.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/smartsign/parent.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/smartsign/prereq.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/smartsign/setup.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/smartsign/tests.sh SH 2010,2011,2012,2014,2016,2017,2018,2019,2020,2021,2022



./bin/tests/system/sortlist/clean.sh SH 2000,2001,2004,2007,2009,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sortlist/ns1/example.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sortlist/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/sortlist/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/sortlist/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/sortlist/tests.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/spf/clean.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/spf/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/spf/ns1/spf.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/spf/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/spf/tests.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/start.pl SH  
 2001,2004,2005,2006,2007,2008,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/start.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/clean.sh SH 2010,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad01.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad02.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad03.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad04.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad05.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad06.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad07.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad08.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad09.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad10.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/bad11.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/good01.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/good02.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/good03.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/good04.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/conf/good05.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/knowngood.dig.out.rec X 2010,2013,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns1/root.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns2/named.conf.in CONF-C 2010,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns3/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns3/example.org.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns3/named.conf.in CONF-C 2010,2013,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns3/sign.sh SH 2010,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns3/undelegated.db.in ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns4/example.com.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns4/example.info.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns4/example.org.db ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns4/sign.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/ns4/sub.example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/staticstub/setup.sh SH 2010,2012,2014,2016,2018,2019,2020,2021,2022



./bin/tests/system/staticstub/tests.sh SH 2010,2011,2012,2013,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ans4/ans.pl PERL 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/clean.sh SH 2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns1/root.db ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns1/zone.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns2/example.db ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns2/internal.db ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns3/internal.db ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/statistics/ns3/root.hint ZONE 2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/prereq.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statistics/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/statistics/tests.sh SH 2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/clean.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/fetch.pl PERL 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/ns2/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/prereq.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/server-json.pl PERL 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/server-xml.pl PERL 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/setup.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/tests.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic-json.pl PERL 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic-xml.pl PERL 2015,2016,2017,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic.expect.1 X 2015,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic.expect.2 X 2015,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic.expect.4 X 2015,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic.expect.5 X 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/statschannel/traffic.expect.6 X 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stop.pl SH 2001,2004,2005,2006,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stop.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stopall.sh SH 2018,2019,2020,2021,2022  
./bin/tests/system/stress/clean.sh SH 2000,2001,2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/ns1/named.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/ns2/named.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/ns3/named.conf CONF-C 2000,2001,2004,2007,2013,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/ns4/named.conf CONF-C 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/prereq.sh SH 2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/setup.pl PERL 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/setup.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/tests.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stress/update.pl PERL 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stub/clean.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/stub/knowngood.dig.out.norec X 2000,2001,2018,2019,2020,2021,2022  
./bin/tests/system/stub/knowngood.dig.out.rec X 2000,2001,2013,2018,2019,2020,2021,2022  
./bin/tests/system/stub/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022



./bin/tests/system/stub/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/stub/ns2/child.example.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/stub/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/stub/ns3/example.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/stub/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/stub/ns4/example.db ZONE 2020,2021,2022  
 ./bin/tests/system/stub/ns4/named.conf.in CONF-C 2020,2021,2022  
 ./bin/tests/system/stub/ns5/named.conf.in CONF-C 2020,2021,2022  
 ./bin/tests/system/stub/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/stub/tests.sh SH 2000,2001,2004,2007,2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ans6/ans.py PYTHON 2019,2020,2021,2022  
 ./bin/tests/system/tcp/clean.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns1/root.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns2/example.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/ns5/named.conf.in CONF-C 2019,2020,2021,2022  
 ./bin/tests/system/tcp/prereq.sh SH 2019,2020,2021,2022  
 ./bin/tests/system/tcp/setup.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/tcp/tests.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/testcrypto.sh SH 2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/testsock.pl PERL 2000,2001,2004,2007,2010,2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/testsock6.pl PERL 2010,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/testsummary.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/Makefile.in MAKE  
 2001,2002,2004,2007,2009,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/clean.sh SH 2001,2004,2007,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/keycreate.c C  
 2001,2004,2005,2007,2009,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/keydelete.c C  
 2001,2004,2005,2007,2009,2010,2011,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/ns1/example.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/ns1/named.conf.in CONF-C  
 2001,2004,2007,2009,2011,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/ns1/setup.sh SH 2001,2004,2007,2009,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/prereq.sh SH 2001,2004,2006,2007,2009,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/setup.sh SH 2001,2004,2007,2009,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tkey/tests.sh SH 2001,2004,2007,2009,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsig/ans2/ans.pl PERL 2020,2021,2022  
 ./bin/tests/system/tsig/badlocation X 2020,2021,2022  
 ./bin/tests/system/tsig/badtime X 2020,2021,2022  
 ./bin/tests/system/tsig/clean.sh SH 2005,2006,2007,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsig/ns1/example.db ZONE 2005,2006,2007,2009,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsig/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/tsig/prereq.sh SH 2020,2021,2022  
 ./bin/tests/system/tsig/setup.sh SH 2016,2018,2019,2020,2021,2022



./bin/tests/system/tsig/tests.sh SH 2005,2006,2007,2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/authsock.pl PERL 2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/clean.sh SH 2010,2011,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/ns1/administrator.ccache X 2010,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/ns1/dns.keytab X 2010,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/ns1/example.nil.db.in X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/ns1/testdenied.ccache X 2010,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/prereq.sh SH 2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/setup.sh SH 2010,2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/tsiggss/tests.sh SH 2010,2011,2014,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/clean.sh SH  
 2000,2001,2004,2007,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/large.out X 2012,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/broken1.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/broken2.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/broken3.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/broken4.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/broken5.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/class10.hints ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/example-class10.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/example-in.db ZONE  
 2000,2001,2004,2007,2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/large.db ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/ns3/sign.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/setup.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/tests.sh SH 2000,2001,2004,2007,2011,2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/unknown/zones/nan.bad ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/ans4/ans.pl PERL 2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/clean.sh SH 2000,2001,2004,2007,2011,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/knowngood.after1 X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/knowngood.after2 X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/knowngood.before X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/knowngood.ns2.before X 2000,2001,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/ns1/example1.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/ns3/nomaster.db ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/prereq.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/setup.sh SH 2000,2001,2004,2007,2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/upforwd/tests.sh SH 2000,2001,2004,2007,2011,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/verify/clean.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/verify/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022



./bin/tests/system/verify/setup.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/verify/tests.sh SH 2012,2013,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/verify/zones/genzones.sh SH 2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/verify/zones/unsigned.db ZONE 2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/clean.sh SH  
 2000,2001,2004,2005,2007,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/1.10.in-addr.arpa.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/clone.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/example1.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/example2.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/external/inline.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/internal.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/internal/inline.db ZONE 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns2/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns3/child.clone.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns3/internal.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns3/named1.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns3/named2.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns5/child.clone.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/views/setup.sh SH 2000,2001,2004,2007,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/views/tests.sh SH 2000,2001,2004,2007,2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/clean.sh SH 2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/dlv.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/named.conf.in CONF-C 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/nsec.db.in ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/nsec3.db.in ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/private.nsec.db.in ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/private.nsec3.db.in ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/root.db.in ZONE 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns1/sign.sh SH 2012,2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/ns5/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/setup.sh SH 2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/wildcard/tests.sh SH 2012,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/bigkey.dsp.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/bigkey.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/bigkey.mak.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/bigkey.vcxproj.filters.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/bigkey.vcxproj.in X 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/bigkey.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/feature-test.dsp.in X 2016,2018,2019,2020,2021,2022



./bin/tests/system/win32/feature-test.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/feature-test.mak.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/feature-test.vcxproj.filters.in X 2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/win32/feature-test.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/gencheck.dsp.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/gencheck.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/gencheck.mak.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/gencheck.vcxproj.filters.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/gencheck.vcxproj.in X 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/gencheck.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keycreate.dsp.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keycreate.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keycreate.mak.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keycreate.vcxproj.filters.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keycreate.vcxproj.in X 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keycreate.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keydelete.dsp.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keydelete.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keydelete.mak.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/keydelete.vcxproj.filters.in X 2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/win32/keydelete.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/lwtest.dsp.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/lwtest.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/lwtest.mak.in X 2016,2018,2019,2020,2021,2022  
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 ./bin/tests/system/win32/lwtest.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/pipequeries.dsp.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/pipequeries.dsw X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/pipequeries.mak.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/pipequeries.vcxproj.filters.in X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/pipequeries.vcxproj.in X 2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/win32/pipequeries.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ans5/badkeydata X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ans5/badmessageid X 2020,2021,2022  
 ./bin/tests/system/xfer/ans5/goodaxfr X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ans5/partial X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ans5/unknownkey X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ans5/unsigned X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ans5/wrongkey X 2011,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/clean.sh SH  
 2000,2001,2004,2007,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
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 2000,2001,2003,2004,2009,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/dig2.good X  
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./bin/tests/system/xfer/knowngood.mapped X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns1/axfr-too-big.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns1/ixfr-too-big.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns2/mapped.db.in ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns2/slave.db.in ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns4/named.conf.base CONF-C 2011,2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns4/root.db.in ZONE 2011,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns6/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns7/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns8/example.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/ns8/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/prereq.sh SH 2011,2012,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/setup.sh SH  
 2001,2002,2004,2007,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xfer/tests.sh SH  
 2000,2001,2004,2005,2007,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/clean.sh SH 2000,2001,2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/ns1/changing1.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/ns1/changing2.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/ns1/root.db ZONE 2000,2001,2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/ns2/example.db ZONE  
 2000,2001,2002,2003,2004,2007,2009,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/setup.pl PERL 2000,2001,2004,2007,2011,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/setup.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/xferquota/tests.sh SH 2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ans5/ans.pl PERL 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/clean.sh SH 2013,2014,2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns1/root.db ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns2/tld.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns3/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns3/root.hint ZONE 2013,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns4/named.conf.in CONF-C 2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/ns4/one.tld.db ZONE 2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/prereq.sh SH 2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/setup.sh SH 2013,2014,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zero/tests.sh SH 2013,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/system/zonechecks/a.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zonechecks/aaaa.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zonechecks/bigserial.db ZONE 2015,2016,2018,2019,2020,2021,2022  
 ./bin/tests/system/zonechecks/clean.sh SH 2004,2007,2012,2014,2015,2016,2018,2019,2020,2021,2022



./bin/tests/system/zonechecks/cname.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/dname.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/noaddress.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/ns1/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/ns2/named.conf.in CONF-C 2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/nxdomain.db ZONE 2004,2007,2016,2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/prereq.sh SH 2014,2016,2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/setup.sh SH 2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/system/zonechecks/tests.sh SH 2004,2007,2009,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/testdata/wire/wire\_test.data X 1999,2000,2001,2018,2019,2020,2021,2022  
./bin/tests/testdata/wire/wire\_test.data2 X 1999,2000,2001,2018,2019,2020,2021,2022  
./bin/tests/testdata/wire/wire\_test.data3 X 1999,2000,2001,2018,2019,2020,2021,2022  
./bin/tests/testdata/wire/wire\_test.data4 X 1999,2000,2001,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/Makefile.in MAKE 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/README TXT.BRIEF 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/clean.sh SH 2010,2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/ns1/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/ns1/named.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/ns1/root.db ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/ns1/sign.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/ns1/wrap.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/setup.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-ksk/tests.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/clean.sh SH 2010,2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/ns1/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/ns1/named.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/ns1/root.db ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/ns1/sign.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/ns1/wrap.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/setup.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/autosign-zsk/tests.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/cleanall.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/common/controls.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/common/rndc.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/common/root.hint ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/conf.sh.in SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/run.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/runall.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/setup.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/clean.sh SH 2010,2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/ns1/example.db.in ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/ns1/named.conf CONF-C 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/ns1/root.db ZONE 2010,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/ns1/wrap.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/setup.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/slave/tests.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/start.pl PERL 2010,2012,2015,2016,2018,2019,2020,2021,2022  
./bin/tests/virtual-time/start.sh SH 2010,2012,2016,2018,2019,2020,2021,2022



./bin/tests/virtual-time/stop.pl PERL 2010,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/virtual-time/stop.sh SH 2010,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/virtual-time/testsock.pl PERL 2010,2012,2016,2018,2019,2020,2021,2022  
 ./bin/tests/virtual-time/vtwrapper.c C 2010,2016,2018,2019,2020,2021,2022  
 ./bin/tests/win32/backtrace\_test.dsp.in X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/backtrace\_test.dsw X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/backtrace\_test.mak.in X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/backtrace\_test.vcxproj.filters.in X 2013,2015,2018,2019,2020,2021,2022  
 ./bin/tests/win32/backtrace\_test.vcxproj.in X 2013,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/win32/backtrace\_test.vcxproj.user X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/inter\_test.dsp.in X 2013,2018,2019,2020,2021,2022  
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 ./bin/tests/win32/inter\_test.mak.in X 2013,2018,2019,2020,2021,2022  
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 ./bin/tests/win32/inter\_test.vcxproj.user X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/makejournal.dsp.in X 2016,2018,2019,2020,2021,2022  
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 ./bin/tests/win32/makejournal.vcxproj.user X 2016,2018,2019,2020,2021,2022  
 ./bin/tests/win32/rwlock\_test.dsp.in X 2013,2018,2019,2020,2021,2022  
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 ./bin/tests/win32/rwlock\_test.vcxproj.user X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/shutdown\_test.dsp.in X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/shutdown\_test.dsw X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/shutdown\_test.mak.in X 2013,2018,2019,2020,2021,2022  
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 ./bin/tests/win32/sock\_test.mak.in X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/sock\_test.vcxproj.filters.in X 2013,2015,2018,2019,2020,2021,2022  
 ./bin/tests/win32/sock\_test.vcxproj.in X 2013,2015,2016,2017,2018,2019,2020,2021,2022  
 ./bin/tests/win32/sock\_test.vcxproj.user X 2013,2018,2019,2020,2021,2022  
 ./bin/tests/win32/task\_test.dsp.in X 2013,2018,2019,2020,2021,2022  
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 ./lib/lwres/man/lwres\_context.html HTML DOCBOOK  
 ./lib/lwres/man/lwres\_gabn.3 MAN DOCBOOK  
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 ./lib/lwres/man/lwres\_getaddrinfo.3 MAN DOCBOOK  
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 ./lib/lwres/man/lwres\_getrrsetbyname.3 MAN DOCBOOK  
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 ./lib/lwres/man/lwres\_inetntop.docbook SGML  
 2000,2001,2004,2005,2007,2014,2015,2016,2018,2019,2020,2021,2022  
 ./lib/lwres/man/lwres\_inetntop.html HTML DOCBOOK



./lib/lwres/man/lwres\_noop.3 MAN DOCBOOK  
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 ./lib/lwres/man/lwres\_packet.3 MAN DOCBOOK  
 ./lib/lwres/man/lwres\_packet.docbook SGML  
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 ./lib/lwres/tests/testdata/link-local.conf X 2014,2018,2019,2020,2021,2022  
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 ./lib/samples/nsprobe.c C 2009,2010,2011,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022  
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./lib/samples/sample-async.c C 2009,2013,2014,2015,2016,2018,2019,2020,2021,2022  
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./util/memleak.pl PERL 1999,2000,2001,2004,2007,2012,2016,2018,2019,2020,2021,2022

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./win32utils/Configure PERL 2013,2014,2015,2016,2017,2018,2019,2020,2021,2022

./win32utils/GeoIP.diff X 2013,2018,2019,2020,2021,2022

./win32utils/bind9.sln.in X 2013,2014,2015,2016,2017,2018,2019,2020,2021,2022

./win32utils/index.html HTML 2006,2007,2008,2012,2013,2014,2015,2016,2018,2019,2020,2021,2022

./win32utils/legacy/BINDBuild.dsw.in X  
2001,2005,2006,2008,2009,2010,2013,2014,2015,2016,2018,2019,2020,2021,2022

./win32utils/legacy/BuildAll.bat.in BAT  
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./win32utils/legacy/BuildSetup.bat.in BAT  
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./win32utils/legacy/makedefs.pl PERL 2001,2004,2007,2009,2012,2013,2014,2016,2018,2019,2020,2021,2022

./win32utils/legacy/win32-build.txt TXT.BRIEF 2001,2002,2004,2005,2008,2009,2012,2013,2014,2016,2018,2019

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-->

<!-- Generate ISC copyright comments from Docbook copyright metadata. -->

<xsl:stylesheet version="1.0"

xmlns:xsl="http://www.w3.org/1999/XSL/Transform"

xmlns:xi="http://www.w3.org/2001/XInclude"

xmlns:db="http://docbook.org/ns/docbook">

<xsl:template name="isc.copyright.format">

<xsl:param name="text"/>

<xsl:value-of select="\$isc.copyright.leader"/>

<xsl:value-of select="normalize-space(substring-before(\$text, '&#10;'))"/>

<xsl:text>&#10;</xsl:text>

<xsl:variable name="rest" select="substring-after(\$text, '&#10;')"/>

<xsl:if test="translate(\$rest, '&#9;&#32;', '')">

<xsl:call-template name="isc.copyright.format">

<xsl:with-param name="text" select="\$rest"/>

</xsl:call-template>

</xsl:if>

</xsl:template>

<xsl:variable name="isc.copyright.text">

<xsl:text>

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```
</xsl:text>
</xsl:variable>

<xsl:variable name="isc.copyright">
  <xsl:call-template name="isc.copyright.format">
    <xsl:with-param name="text">
      <xsl:for-each select="db:book/db:info/db:copyright | db:refentry/db:docinfo/db:copyright">
        <xsl:text>Copyright (C) </xsl:text>
        <xsl:call-template name="copyright.years">
          <xsl:with-param name="years" select="db:year"/>
        </xsl:call-template>
        <xsl:text> </xsl:text>
        <xsl:value-of select="db:holder"/>
        <xsl:value-of select="$isc.copyright.breakline"/>
        <xsl:text>&#10;</xsl:text>
      </xsl:for-each>
    <xsl:value-of
      select="$isc.copyright.text"/>
    </xsl:with-param>
  </xsl:call-template>
</xsl:variable>
</xsl:stylesheet>

<!--
- Local variables:
- mode: sgml
- End:
-->
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```

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## 1.48 systemd 244.5



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## 1.51 selinux 3.0

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Julian Seward, [jseward@bzip.org](mailto:jseward@bzip.org)  
bzip2/libbzip2 version 1.0.6 of 6 September 2010

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Version 3.1, 31 March 2009

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DRuntime: Runtime Library for the D Programming Language

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b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years

and valid for as

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c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in

the same way through the same place at no

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Version 2, June 1991

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[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

#### Preamble

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Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

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(which use some of those functions and data) to form executables.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any

executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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a.

Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b. Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of

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- c. If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
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## 1.57 libcap 2.32

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```
Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.
```

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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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```
#!/usr/bin/env bash
# MIT licenses will each have a unique MD5 sum since they contain a unique copyright.
# This script will read the license file into memory, strip out the copyright, and then
# generate an MD5 that is not unique and can be matched against a known MIT MD5 sum.
set -e
```

```
calculate_md5_sum() {
  local FILE="$1"

  # Read the contents of the file into a variable
  local raw_license_text=$(<"$FILE")

  # Convert to lowercase
  local lowercase_license_text="${raw_license_text,,}"

  # Remove anything before the beginning of the license
  local stripped_license_text=$(awk '/permission is hereby granted,/{p=1} p' <<< "$lowercase_license_text")
```



```

# Replace line breaks (Windows or Linux) with a single space
local replaced_linebreaks=$(tr '\r\n' ' ' <<< "$stripped_license_text")

# Replace multiple spaces with a single space
local normalized_license_text=$(tr -s ' ' <<< "$replaced_linebreaks")

# Strip away any non-printable, non-whitespace characters
local clean_unprintable_license_text=$(tr
-cd '[:print:][:space:]' <<< "$normalized_license_text")

# Remove punctuation and special characters
local clean_license_text=$(echo "$clean_unprintable_license_text" | sed 's/[^a-zA-Z ]//g')

# Calculate the MD5 sum of the cleaned license text
local MD5SUM=$(echo -n "$clean_license_text" | md5sum | awk '{print $1}')

# Output the MD5 sum
echo "$MD5SUM"
}

# Check if the FILE argument is provided
if [ -z "$1" ]; then
    echo "Please provide a FILE as an argument."
    exit 1
fi

# Invoke the function with the provided FILE argument
calculate_md5_sum "$1"

```

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WEV @@ WEV[B "1

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x ?"U@,5 @mISmIN<GimCN7g1u|E  
43mI,5WEV @@ WEV @mImImIAmImImI0mImImI\*mImI  
A0mImImI...  
lost+found...

;9GimCN7g



```
!"#$%&'()*+,-
./0123456789;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

!"#$%&'()*+,-
./0123456789;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

!"#$%&'()*+,-
./0123456789;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

!"#$%&'()*+,-
./0123456789;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~WEV @@
WEV[B "1
```

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        - \*/

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```
#
# This is a Makefile stub which handles the creation of BSD shared
# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#
```

all:: image

```
real-subdirs:: Makefile
@echo " MKDIR pic"
@mkdir -p pic
```

```
BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic
```

image: \$(BSD\_LIB)

```
$(BSD_LIB): $(OBJS)
(cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
$(MV) pic/$(BSD_LIB) .
$(RM) -f ../$(BSD_LIB)
(cd ..; $(LN) $(LINK_BUILD_FLAGS) \
`echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))
```

```
install-shlibs install:: $(BSD_LIB)
@echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
@$(INSTALL_PROGRAM) $(BSD_LIB) \
$(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
@-$(LDCONFIG)
```

install-strip: install

install-shlibs-strip:: install-shlibs

```
uninstall-shlibs uninstall::
$(RM) -f $(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

```
clean::
$(RM)
```



-rf pic

\$(RM) -f \$(BSD\_LIB)

\$(RM) -f ../\$(BSD\_LIB)

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Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

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Index: tdbsa/tdb.c

=====



--- tdbsa.orig/tdb.c  
+++ tdbsa/tdb.c  
@@ -4,11 +4,11 @@ Rev: 23371  
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

\*/

/\*

- Unix SMB/CIFS implementation.
- + trivial database library - standalone version

- trivial database library - private includes

-

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```

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```
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```

```
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Theodore Ts'o  
23-June-2007

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This is the Debian GNU/Linux prepackaged version of the EXT2 file system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:  
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# 1.61 perl 5.30.0

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### THE BASIC LIBRARY FUNCTIONS

-----

Written by: Philip Hazel  
Email local part: ph10  
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/\* nicstar.c v0.22 Jawaidd Bazyar (bazyar@hypermall.com)

\* nicstar.c, M. Welsh (matt.welsh@cl.cam.ac.uk)

\*

\* Hacked October, 1997 by Jawaidd Bazyar, Interlink Advertising Services Inc.

\* <http://www.hypermall.com/>

\* 10/1/97 - commented out CFG\_PHYIE bit - we don't care when the PHY

\* interrupts us (except possibly for removal/insertion of the cable?)

\* 10/4/97 - began heavy inline documentation of the code. Corrected typos



- \* and spelling mistakes.
- \* 10/5/97 - added code to handle PHY interrupts, disable PHY on
- \* loss of link, and correctly re-enable PHY when link is
- \* re-established. (put back CFG\_PHYIE)
- \*
- \* Modified to work with the IDT7721 nicstar -- AAL5 (tested) only.
- \*
- \* R. D. Rechenmacher <ron@fnal.gov>, Aug. 6, 1997
- \*
- \* Linux driver for the IDT77201 NICStAR PCI ATM controller.
- \* PHY component is expected to be 155 Mbps S/UNI-Lite or IDT 77155;
- \* see init\_nicstar() for PHY initialization to change this. This driver
- \* expects the Linux ATM stack to support scatter-gather
- lists
- \* (skb->atm.iovcnt != 0) for Rx skb's passed to vcc->push.
- \*
- \* Implementing minimal-copy of received data:
- \* IDT always receives data into a small buffer, then large buffers
- \* as needed. This means that data must always be copied to create
- \* the linear buffer needed by most non-ATM protocol stacks (e.g. IP)
- \* Fix is simple: make large buffers large enough to hold entire
- \* SDU, and leave <small\_buffer\_data> bytes empty at the start. Then
- \* copy small buffer contents to head of large buffer.
- \* Trick is to avoid fragmenting Linux, due to need for a lot of large
- \* buffers. This is done by 2 things:
- \* 1) skb->destructor / skb->atm.recycle\_buffer
- \* combined, allow nicstar\_free\_rx\_skb to be called to
- \* recycle large data buffers
- \* 2) skb\_clone of received buffers
- \* See nicstar\_free\_rx\_skb and linearize\_buffer for implementation
- \* details.
- \*
- \*
- \*
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\*  
\* M. Welsh, 6 July 1996  
\*  
\*  
\*/

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