

FreeNAS - Feature #21458

Provide alert if configured NTP server can not be contacted

02/24/2017 02:05 PM - Sam Fourman

Status: Done	Estimated time: 0.00 hour
Priority: Expected	
Assignee: Timur Bakeyev	
Category: Middleware	
Target version: 11.2-BETA2	
Severity: Medium	Needs Merging: No
Reason for Closing:	Needs Automation: No
Reason for Blocked:	Support Suite Ticket: n/a
Needs QA: No	Hardware Configuration:
Needs Doc: No	
Description Since clock skew of even a handful of seconds can break AD, configure the Alert system to check if the ntp server can be contacted. something like: nc -vzu 10.212.0.2 123 Connection to 10.212.0.2 123 port [udp/ntp] succeeded!	
Related issues: Related to FreeNAS - Bug #18362: Add alert to indicate when AD is out of sync... Closed 10/19/2016	

Associated revisions

Revision e2ffdacf - 07/13/2018 05:10 AM - Timur I. Bakeyev

Add NTP alert, in case peer is not reachable, as well as some other related sanity checks. More thorough ones can be derived.

Ticket: #21458

Revision 87cd47f2 - 07/16/2018 08:52 AM - Timur Bakeyev

Add NTP alert, in case peer is not reachable (#1540)

- Add NTP alert, in case peer is not reachable, as well as some other related sanity checks. More thorough ones can be derived.

Ticket: #21458

History

#1 - 02/24/2017 02:09 PM - Ash Gokhale

```
perhaps parse output of ntp_time and error when skew is more that 3sec:
#ntp_time
ntp_gettime() returns code 0 (OK)
time dc5b2c61.ac711d7c Fri, Feb 24 2017 14:04:17.673, (.673601196),
maximum error 83202885 us, estimated error 2836 us, TAI offset 0
ntp_adjtime() returns code 0 (OK)
modes 0x0 (),
```

:root:/z/case:14:04:12:272badger

offset 0.000 us, frequency 27.608 ppm, interval 1 s,
maximum error 83202885 us, estimated error 2836 us,
status 0x2001 (PLL,NANO),

#2 - 02/24/2017 02:10 PM - Ash Gokhale

Also error if ntpservers do not have a locked peer relationship:

#3 - 03/01/2017 03:44 AM - William Grzybowski

- Status changed from *Unscreened* to *Screened*
- Target version changed from *TrueNAS-9.10.2-U2* to *TrueNAS-9.10.3*

#4 - 04/19/2017 08:06 AM - Kris Moore

- Target version changed from *TrueNAS-9.10.3* to *11.0*

#5 - 05/03/2017 07:03 AM - William Grzybowski

- Project changed from *TrueNAS* to *FreeNAS*
- Category changed from *224* to *53*
- Priority changed from *Important* to *Expected*
- Target version changed from *11.0* to *11.1*

Moving to FreeNAS since its no specific to make sure it makes into the next feature set release.

#6 - 06/22/2017 09:37 AM - William Grzybowski

- Status changed from *Screened* to *Unscreened*
- Assignee changed from *William Grzybowski* to *Kris Moore*

Load-balancing

#7 - 07/05/2017 06:33 AM - Kris Moore

- Assignee changed from *Kris Moore* to *Timur Bakeyev*

Timur - This one will greatly help with AD troubleshooting. Can you take a look and work with William/Marcelo/Suraj in implementation?

#8 - 07/06/2017 05:26 AM - Timur Bakeyev

- Status changed from *Unscreened* to *Screened*

#9 - 07/09/2017 04:34 PM - Timur Bakeyev

- Status changed from *Screened* to *Investigation*

There is an ntplib Python lib, that performs basic NTP operations.

```
#!/usr/local/bin/python
#
import time
import ntplib
from ntplib import NTPClient, NTPException

#NTP_SERVER = "0.freebsd.pool.ntp.org"
NTP_SERVER = "10.0.255.250"
NTP_SERVER_BAD = "www.microsoft.com"

client = NTPClient()

info = client.request(NTP_SERVER)
```

```

# ntpdate -q 10.0.255.250
#server 10.0.255.250, stratum 3, offset 0.001706, delay 0.02589
# 7 Jul 04:19:18 ntpdate[44792]: adjust time server 10.0.255.250 offset 0.001706 sec
print("server %s, stratum %d, offset %f, delay %f" %(NTP_SERVER, info.stratum, info.offset, info.root_delay))

# check response
#self.assertTrue(isinstance(info, ntplib.NTPStats))
print("Version: %d" % info.version)
print("Offset: %f" % info.offset)
print("Stratum: %x" % info.stratum)
print("Precision: %x" % info.precision)
print("Root delay: %f" % info.root_delay)
print("Root dispersion: %f" % info.root_dispersion)
print("Delay: %d" % info.delay)
print("Leap: %d" % info.leap)
#self.assertIn(info.leap, ntplib.NTP.LEAP_TABLE)
print("Poll: %x" % info.poll)
print("Mode: %d" % info.mode)
#self.assertIn(info.mode, ntplib.NTP.MODE_TABLE)
print("Refid: %x" % info.ref_id)
print("TX time: %f" % info.tx_time)
print("Ref time: %f" % info.ref_time)
print("Orig time: %f" % info.orig_time)
print("Dest time: %f" % info.dest_time)
print("Recv time: %f" % info.recv_time)

print("%d %d" % ( int(info.tx_time), ntplib.ntp_to_system_time(ntplib.system_to_ntp_time(int(info.tx_time)))
) )
print("Leap: %s" % ntplib.leap_to_text(info.leap))
print("Mode: %s" % ntplib.mode_to_text(info.mode))
print("Stratum: %s" % ntplib.stratum_to_text(info.stratum))
print("RefID: %s" % ntplib.ref_id_to_text(info.ref_id, info.stratum))

try:
    new_info = client.request(NTP_SERVER_BAD, timeout=1)
except NTPException as ne:
    print("FATAL: " + ne.message)

```

```

]# ntpdate -q 10.0.255.250
server 10.0.255.250, stratum 3, offset 0.003098, delay 0.02585
10 Jul 01:30:42 ntpdate[74562]: adjust time server 10.0.255.250 offset 0.003098 sec

```

```

server 10.0.255.250, stratum 3, offset 0.003227, delay 0.005920
Version: 2
Offset: 0.003227
Stratum: 3
Precision: -17
Root delay: 0.005920
Root dispersion: 0.056061
Delay: 0
Leap: 0
Poll: 3
Mode: 4
Refid: d5ef9a0c
TX time: 1499643047.698076
Ref time: 1499641950.401897
Orig time: 1499643047.694415
Dest time: 1499643047.695232
Recv time: 1499643047.698025
1499643047 1499643047
Leap: no warning
Mode: server
Stratum: secondary reference (3)
RefID: 213.239.154.12
FATAL: No response received from www.microsoft.com.

```

The output and information obtained via lib comparable to the results of ntpdate.

The library, seems, doesn't support NTP authentication though, not sure, how critical is that.

Haven't tested it on IPv6 peers either.

#10 - 07/12/2017 04:55 AM - Timur Bakeyev

Implemented nice, simple, easy to understand **wrong** check. Have to keep in mind, that by default we use pool.ntp.org addresses they are not bounded to some particular hosts, but randomly picked up by DNS round-robin. So, for meaningful results we need to parse the output of ntpq.

#11 - 07/23/2017 02:50 PM - Timur Bakeyev

Ok, implemented parsing and analysing of the ntpq output with the cooperation of the ntplib. Now only need to wrap that into the Alerts class and find the way to test it somehow...

#12 - 08/14/2017 07:47 AM - Dru Lavigne

- Status changed from Investigation to 46

Timur: is this feature still on track for 11.1?

#13 - 08/15/2017 09:55 AM - Timur Bakeyev

- Status changed from 46 to Fix In Progress

I have some working code, need to integrate in into the alerts sub-system, should be ready before 11.1.

#14 - 11/27/2017 04:38 PM - Kris Moore

Timur - Ping! is this going to be in for 11.1?

#15 - 12/01/2017 01:12 PM - Timur Bakeyev

- Target version changed from 11.1 to 11.1-U1

Hi, Kris!

I forgot about this one :(The code is somewhat working, but I want to test it in tougher conditions. also, there is a ticket, where user got NTP not working in a interesting way - need to check that new code can detect such an issue.

#16 - 12/18/2017 11:44 AM - Dru Lavigne

- Target version changed from 11.1-U1 to 11.2-BETA1

Moving to next feature release.

#17 - 12/26/2017 06:10 PM - Anonymous

- Related to Bug #18362: Add alert to indicate when AD is out of sync with NTP added

#18 - 01/24/2018 11:42 AM - Dru Lavigne

- Status changed from Fix In Progress to In Progress

#19 - 03/19/2018 11:49 AM - Dru Lavigne

- Target version changed from 11.2-BETA1 to 11.2-RC2

#20 - 05/02/2018 06:16 PM - Timur Bakeyev

- Severity set to Medium

Alerts API has changed, need to update the code.

#21 - 07/15/2018 07:06 AM - Timur Bakeyev

Master PR: <https://github.com/freenas/freenas/pull/1540>

#22 - 07/15/2018 07:10 AM - Timur Bakeyev

Sam Fourman while tests are there, the thresholds are quite arbitrary and may require adjustment. Feel free to propose your values as well as more checks that can be done.

#23 - 07/16/2018 06:06 PM - Timur Bakeyev

- Status changed from In Progress to Ready for Testing

#24 - 07/17/2018 05:09 AM - Dru Lavigne

- Subject changed from Provide Alert if configured ntpserver can not be contacted to Provide Alert if configured NTP server can not be contacted

- Target version changed from 11.2-RC2 to 11.2-BETA2

- Needs Merging changed from Yes to No

#25 - 07/17/2018 05:10 AM - Dru Lavigne

- Subject changed from Provide Alert if configured NTP server can not be contacted to Provide alert if configured NTP server can not be contacted

#28 - 07/18/2018 02:29 PM - Michael Reynolds

- Status changed from Ready for Testing to Passed Testing

- Needs QA changed from Yes to No

Timur tested this using the attached files

#29 - 07/26/2018 01:33 PM - Timothy Moore II

- Needs Doc changed from Yes to No

Docs PRs: [master] <https://github.com/freenas/freenas-docs/pull/246>

[angulargui] <https://github.com/freenas/freenas-docs/pull/245>

#30 - 07/26/2018 01:35 PM - Dru Lavigne

- Status changed from Passed Testing to Done

Files

tests.tar.gz	4.99 KB	07/18/2018	Timur Bakeyev
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