From: Simon Hoerder <<u>simon@hoerder.net</u>> via <u>pqc-forum@list.nist.gov</u>

To: pqc-forum@list.nist.gov

Subject: [pqc-forum] Round 3 algorithm announcement?

Date: Thursday, June 23, 2022 04:00:39 AM ET

Ηi,

I'd like to know when NIST plans to announce its selection of round 3 candidates for standardization. Can NIST say something a little more tangible than "ASAP" on this, please?

Best,

Simon

--

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To view this discussion on the web visit https://groups.google.com/a/list.nist.gov/d/msgid/pqc-forum/D672B551-DF7D-4749-BC36-9D99C4D1F790%40hoerder.net.

From: BongHo Kang <<u>bonghokang@gmail.com</u>> via <u>pqc-forum@list.nist.gov</u>

To: pqc-forum <<u>pqc-forum@list.nist.gov</u>>

CC: SH <<u>simon@hoerder.net</u>>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Monday, June 27, 2022 10:18:17 PM ET

Thanks Simon for initiating this request.

Hello Dr. Moody and Dr. Chen,

I am also very interested in this topic and would like to know elaborated schedule for selection announcement and standardization.

All the best,

BH.

On Thursday, June 23, 2022 at 5:00:27 PM UTC+9 SH wrote:

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From: Moody, Dustin (Fed) < <u>dustin.moody@nist.gov</u> > via pqc-forum < <u>pqc-forum@list.nist.gov</u> >

To: BongHo Kang <<u>bonghokang@gmail.com</u>>, pqc-forum <<u>pqc-forum@list.nist.gov</u>>

CC: SH <<u>simon@hoerder.net</u>>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Tuesday, June 28, 2022 11:43:02 AM ET

We've been asked for an update on where things stand with our announcement.

We know the delay is frustrating, and we are also very eager for it to happen. We want to emphasize that no technical issues are behind the delay in the announcement. There are still some legal and procedural steps being taken care of, and while we remain hopeful that we'll be able to announce very soon, the remaining steps are out of our hands. So, we cannot provide more tangible information on when the announcement will come.

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Dustin Moody

NIST PQC team

From: pgc-forum@list.nist.gov <pgc-forum@list.nist.gov > On Behalf Of BongHo Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

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From: William Whyte <<u>wwhyte@qti.qualcomm.com</u>> via <u>pqc-forum@list.nist.gov</u>

To: Moody, Dustin (Fed) <<u>dustin.moody@nist.gov</u>>, BongHo Kang <<u>bonghokang@gmail.com</u>>, pqc-

forum <pqc-forum@list.nist.gov>

CC: SH <<u>simon@hoerder.net</u>>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Tuesday, June 28, 2022 11:51:57 AM ET

Hi Dustin – without revealing the selections, would you be able to provide some specifics about the criteria you used to make the decision? There've been concerns expressed about how the rationales as described in the previous report seemed not to be 100% consistent between candidate algorithms. If you can provide more information on the criteria that would help the audience to understand and agree with the final decision when it's released.

(Obviously revealing the criteria implies the decision, but this can't be helped – if the most desirable candidate by the technical criteria can't be legally cleared, so be it).

Cheers,

William

From: 'Moody, Dustin (Fed)' via pqc-forum <pqc-forum@list.nist.gov>

Sent: Tuesday, June 28, 2022 5:43 PM

To: BongHo Kang <bonghokang@gmail.com>; pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

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Dustin Moody

NIST PQC team

From:pqc-forum@list.nist.gov <pqc-forum@list.nist.gov > On Behalf Of BongHo Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <pqc-forum@list.nist.gov>

Cc: SH < simon@hoerder.net >

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

Thanks Simon for initiating this request.

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I am also very interested in this topic and would like to know elaborated schedule for selection announcement and standardization.

All the best,

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From: Moody, Dustin (Fed) <<u>dustin.moody@nist.gov</u>> via pqc-forum <<u>pqc-forum@list.nist.gov</u>>

To: William Whyte <<u>wwhyte@qti.qualcomm.com</u>>, pqc-forum <<u>pqc-forum@list.nist.gov</u>>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Tuesday, June 28, 2022 12:40:57 PM ET

William,

We published the selection criteria in our Call for Proposals:

https://csrc.nist.gov/CSRC/media/Projects/Post-Quantum-Cryptography/documents/call-for-proposals-final-dec-2016.pdf

In particular, see section 4.

Dustin

From: William Whyte <wwhyte@qti.qualcomm.com>

Sent: Tuesday, June 28, 2022 11:52 AM

To: Moody, Dustin (Fed) <dustin.moody@nist.gov>; BongHo Kang <bonghokang@gmail.com>;

pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

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From: 'Moody, Dustin (Fed)' via pqc-forum <pqc-forum@list.nist.gov>

Sent: Tuesday, June 28, 2022 5:43 PM

To: BongHo Kang < bonghokang@gmail.com>; pqc-forum < pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

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Dustin Moody

NIST PQC team

From:pqc-forum@list.nist.gov <pqc-forum@list.nist.gov > On Behalf Of BongHo Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <<u>pqc-forum@list.nist.gov</u>>

Cc: SH < simon@hoerder.net>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

Thanks Simon for initiating this request.

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<u>SA1PR09MB866935423A7040E49AC13C88E5B89%40SA1PR09MB8669.namprd09.prod.outlook.com.</u>

From: William Whyte <<u>wwhyte@qti.qualcomm.com</u>> via <u>pqc-forum@list.nist.gov</u>

To: Moody, Dustin (Fed) <<u>dustin.moody@nist.gov</u>>, pqc-forum <<u>pqc-forum@list.nist.gov</u>>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Tuesday, June 28, 2022 12:45:39 PM ET

I think the discussion since then has pointed out various places where those are incomplete, e.g. around the existence of proofs that apply to the actual parameters used, around memory access costs, etc. Can you provide more specificity on those?

Cheers,

William

From: Moody, Dustin (Fed) <dustin.moody@nist.gov>

Sent: Tuesday, June 28, 2022 6:41 PM

To: William Whyte <wwhyte@qti.qualcomm.com>; pqc-forum <pqc-forum@list.nist.gov>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

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William,

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https://csrc.nist.gov/CSRC/media/Projects/Post-Quantum-Cryptography/documents/call-for-proposals-final-dec-2016.pdf

In particular, see section 4.

Dustin

From: William Whyte <<u>wwhyte@qti.qualcomm.com</u>>

Sent: Tuesday, June 28, 2022 11:52 AM

To: Moody, Dustin (Fed) < dustin.moody@nist.gov; BongHo Kang < bonghokang@gmail.com;

pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

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Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

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Dustin Moody

NIST PQC team

From:pqc-forum@list.nist.gov <pqc-forum@list.nist.gov > On Behalf Of BongHo Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

Thanks Simon for initiating this request.

Hello Dr. Moody and Dr. Chen,

I am also very interested in this topic and would like to know elaborated schedule for selection announcement and standardization.

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From: Simon Hoerder <<u>simon@hoerder.net</u>> via <u>pqc-forum@list.nist.gov</u>

To: Moody, Dustin (Fed) < <u>dustin.moody@nist.gov</u>>

CC: pqc-forum <<u>pqc-forum@list.nist.gov</u>>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Wednesday, June 29, 2022 08:56:42 AM ET

Hi,

Thanks for the reply. It's not quite what I was hoping for but at least it does clarify that the cause for the delay hasn't changed.

Best,

Simon

On 28 Jun 2022, at 17:42, 'Moody, Dustin (Fed)' via pqc-forum <pqc-forum@list.nist.gov> wrote:

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From: pqc-forum@list.nist.gov <pqc-forum@list.nist.gov> **On Behalf Of** BongHo Kang

Simon Hoerder <simon@hoerder.net>

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

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Simon Hoerder <simon@hoerder.net>

msgid/pqc-forum/ SA1PR09MB866935423A7040E49AC13C88E5B89%40SA1PR09MB8669.namprd09.p rod.outlook.com. From: andy yi < hy8196695@gmail.com > via pqc-forum@list.nist.gov

To: pqc-forum <<u>pqc-forum@list.nist.gov</u>>

CC: SH <<u>simon@hoerder.net</u>>, pqc-forum <<u>pqc-forum@list.nist.gov</u>>, dustin...@nist.gov

<<u>dustin.moody@nist.gov</u>>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Wednesday, June 29, 2022 08:42:41 PM ET

I have been paying close attention to the progress of this matter, and I found that the selection results may have risen to the national strategy, so a series of strategic layouts need to be carried out, such as:

The G7 will also commit to new cooperation to deploy quantum resistant cryptography with the goal of ensuring secure interoperability between ICT systems and fostering growth in the digital economy.

source:

https://www.consilium.europa.eu/en/press/press-releases/2022/06/28/g7-leaders-communique/

https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/28/fact-sheet-the-united-states-continues-to-strengthen-cooperation-with-g7-on-21st-century-challenges-including-those-posed-by-the-peoples-republic-of-china-prc/

在2022年6月29日星期三 UTC+8 20:56:37<SH> 写道:

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NIST PQC team

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From: Moody, Dustin (Fed) < <u>dustin.moody@nist.gov</u> > via pqc-forum < <u>pqc-forum@list.nist.gov</u> >

To: Simon Hoerder < simon@hoerder.net > CC: pqc-forum < pqc-forum@list.nist.gov >

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Friday, July 01, 2022 05:18:37 PM ET

Good news finally!

Things have been falling into place, and we are getting ready to make the announcement. We plan on making it on Tuesday, July 5th. Watch for a pqc-forum post, in addition to some press releases that NIST will put out. The announcement will specify which algorithms we plan to standardize, along with which algorithms will move into the 4th round for further analysis. We will also publish our report which explains the rationale behind our decisions.

Thanks for everybody's patience.

Dustin Moody

NIST PQC team

From: Simon Hoerder <simon@hoerder.net>

Sent: Wednesday, June 29, 2022 8:56 AM

To: Moody, Dustin (Fed) <dustin.moody@nist.gov>

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Dustin Moody NIST PQC team

From: pqc-forum@list.nist.gov <pqc-forum@list.nist.gov> On Behalf Of BongHo Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

Thanks Simon for initiating this request.

Hello Dr. Moody and Dr. Chen,

I am also very interested in this topic and would like to know elaborated schedule for selection announcement and standardization.

All the best,

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On Thursday, June 23, 2022 at 5:00:27 PM UTC+9 SH wrote:

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Moody, Dustin (Fed) <dustin.moody@nist.gov>

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From: John Mattsson <<u>john.mattsson@ericsson.com</u>> via pqc-forum <<u>pqc-forum@list.nist.gov</u>>
To: Moody, Dustin (Fed) <<u>dustin.moody@nist.gov</u>>, Simon Hoerder <<u>simon@hoerder.net</u>>

CC: pqc-forum@list.nist.gov>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Saturday, July 02, 2022 07:39:55 AM ET

Great news!

Thanks for all the hard work from the NIST PQC team!

- I assume that the broad timeline given in the PKC 2022 presentation is still accurate.

https://csrc.nist.gov/csrc/media/Presentations/2022/the-beginning-of-the-end-the-first-nist-pqc-standa/images-media/pkc2022-march2022-moody.pdf

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- [1] https://arxiv.org/ftp/arxiv/papers/2112/2112.00399.pdf
- [2] https://globalriskinstitute.org/publications/2021-quantum-threat-timeline-report/

[3] https://nap.nationalacademies.org/read/25196/

[4] https://www.youtube.com/watch?v=QnLmGfNKCLU&t=2710s

Cheers,

John Preuß Mattsson

From: 'Moody, Dustin (Fed)' via pqc-forum <pqc-forum@list.nist.gov>

Date: Friday, 1 July 2022 at 23:18

To: Simon Hoerder <simon@hoerder.net> **Cc:** pqc-forum <pqc-forum@list.nist.gov>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Good news finally!

Things have been falling into place, and we are getting ready to make the announcement. We plan on making it on Tuesday, July 5th. Watch for a pqc-forum post, in addition to some press releases that NIST will put out. The announcement will specify which algorithms we plan to standardize, along with which algorithms will move into the 4th round for further analysis. We will also publish our report which explains the rationale behind our decisions.

Thanks for everybody's patience.

Dustin Moody

NIST PQC team

From: Simon Hoerder <simon@hoerder.net>

Sent: Wednesday, June 29, 2022 8:56 AM

To: Moody, Dustin (Fed) <dustin.moody@nist.gov>

Cc: pqc-forum <pqc-forum@list.nist.gov>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Hi,

Thanks for the reply. It's not quite what I was hoping for but at least it does clarify that the cause for the delay hasn't changed.

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On 28 Jun 2022, at 17:42, 'Moody, Dustin (Fed)' via pqc-forum <pqc-forum@list.nist.gov> wrote:

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NIST PQC team

From: pqc-forum@list.nist.gov <pqc-forum@list.nist.gov> **On Behalf Of** BongHo

Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pqc-forum <pqc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

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From: Simon Hoerder <<u>simon@hoerder.net</u>> via <u>pqc-forum@list.nist.gov</u>

To: Moody, Dustin (Fed) < <u>dustin.moody@nist.gov</u>>

CC: pqc-forum <<u>pqc-forum@list.nist.gov</u>>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Monday, July 04, 2022 03:58:50 AM ET

Hi Dustin,

that is excellent news indeed! Thanks for the good work.

Looking forward to tomorrow,

Simon

Sent from my iPhone

On 1 Jul 2022, at 23:18, Moody, Dustin (Fed) <dustin.moody@nist.gov> wrote:

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Sent: Wednesday, June 29, 2022 8:56 AM

To: Moody, Dustin (Fed) <dustin.moody@nist.gov>

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From: pqc-forum@list.nist.gov <pqc-forum@list.nist.gov> On Behalf Of

BongHo Kang

Sent: Monday, June 27, 2022 10:18 PM

To: pgc-forum <pgc-forum@list.nist.gov>

Cc: SH <simon@hoerder.net>

Subject: [pqc-forum] Re: Round 3 algorithm announcement?

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amprd09.prod.outlook.com.

From: Moody, Dustin (Fed) < <u>dustin.moody@nist.gov</u> > via pqc-forum < <u>pqc-forum@list.nist.gov</u> >

To: John Mattsson < <u>john.mattsson@ericsson.com</u>>

CC: pqc-forum@list.nist.gov>

Subject: RE: [pqc-forum] Re: Round 3 algorithm announcement?

Date: Thursday, July 07, 2022 01:45:05 PM ET

John,

Thank you.

Yes, we expect that our overall project timeline is accurate. That is, we are aiming to complete the initial PQC standards by around 2024.

The FAQ still gives an accurate view of what NIST thinks in regard to the impact of quantum computers on AES.

Note the last paragraph: "Based on such understanding, current applications can continue to use AES with key sizes 128, 192, or 256 bits. NIST will issue guidance regarding any transitions of symmetric key algorithms and hash functions to protect against threats from quantum computers when we can foresee a transition need. Until then, users should follow the recommendations and guidelines NIST has already issued. In particular, anything with less than 112 bits of classical security should not be used."

Dustin

From: John Mattsson < john.mattsson@ericsson.com>

Sent: Saturday, July 2, 2022 7:39 AM

To: Moody, Dustin (Fed) <dustin.moody@nist.gov>; Simon Hoerder <simon@hoerder.net>

Cc: pqc-forum <pqc-forum@list.nist.gov>

Subject: Re: [pqc-forum] Re: Round 3 algorithm announcement?

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- [1] https://arxiv.org/ftp/arxiv/papers/2112/2112.00399.pdf
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- [4] https://www.youtube.com/watch?v=QnLmGfNKCLU&t=2710s

Cheers.

John Preuß Mattsson

From: 'Moody, Dustin (Fed)' via pqc-forum <pqc-forum@list.nist.gov>

Date: Friday, 1 July 2022 at 23:18

To: Simon Hoerder <<u>simon@hoerder.net</u>> **Cc:** pqc-forum@list.nist.gov>

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NIST PQC team

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To: Moody, Dustin (Fed) < dustin.moody@nist.gov>

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