

<p style="text-align: right;">Page 1</p> <p>1 UNITED STATES PATENT AND TRADEMARK OFFICE 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 4 ASSA ABLOY AB, ASSA ABLOY Inc.,) ASSA ABLOY Residential Group,) 5 Inc., August Home, Inc., HID) Global Corporation, and ASSA) 6 ABLOY Global Solutions, Inc.,)) 7 Petitioners,)) Case No. IPR2022-01093 8 v.) Volume I) 9 CPC PATENT TECHNOLOGIES PTY) LTD.,) 10) Pages 1 to 166) 11 Patent Owner.) 12) 13) 14) 15) 16) 17 REMOTE VIDEOCONFERENCED DEPOSITION OF SAMUEL HARDIE RUSS, PhD 18 Mobile, Alabama 19 Wednesday, July 12, 2023 20 21 22 23 24 Reported by: ELIZABETH BORRELLI, CSR No. 7844, CRR, CLR 25 JOB NO. 9874954</p>	<p style="text-align: right;">Page 3</p> <p>1 APPEARANCES OF COUNSEL: 2 3 For the Petitioners: 4 MORGAN, LEWIS & BOCKIUS LLP BY: ANDREW DEVKAR, appearing remotely 5 Attorney at Law 2049 Century Park East Suite 700 Los Angeles, California 90067 7 (310) 907-1000 (main) (310) 255-9070 (direct) 8 andrew.devkar@morganlewis.com 9 For the Patent Owner: 10 CANTOR COLBURN LLP BY: ANDREW RYAN, appearing remotely BY: STEVEN COYLE, appearing remotely 11 Attorneys at Law 20 Church Street 22nd Floor 13 Hartford, Connecticut 06103-3207 (860) 286-2929 (main) 14 ryan@cantorcolburn.com scoyle@cantorcolburn.com 15 16 17 18 19 20 21 22 23 24 25</p>
<p style="text-align: right;">Page 2</p> <p>1 2 3 4 5 6 7 8 Remote Videoconferenced Deposition of 9 SAMUEL HARDIE RUSS, PhD, Volume I, taken on 10 behalf of the Petitioners, at Mobile, Alabama, 11 commencing at 8:01 a.m., Wednesday, July 12, 12 2023, before Elizabeth Borrelli, a Certified 13 Shorthand Reporter in the State of California, 14 License No. 7844. 15 * * * 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 4</p> <p>1 I N D E X 2 WITNESS EXAMINATION 3 SAMUEL HARDIE RUSS, PhD 4 By MR. DEVKAR 5 5 6 7 EXHIBITS 8 9 RUSS PAGE 10 Exhibit 2039 Expert declaration of Samuel Russ, PhD, 40 pages 8 11 Exhibit 1001 US Patent No. 8,620,039, 17 9 12 pages 13 Exhibit 1003 European Patent Application 28 EP0924655A2 with inventor 14 Shi-Ping Hsu, 8 pages 15 Exhibit 1005 US Patent No. 6.963,660 B1, 8 119 pages 16 17 INFORMATION REQUESTED 18 (None) 19 UNANSWERED QUESTIONS 20 (None) 21 22 23 24 25</p>



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1 MOBILE, ALABAMA; WEDNESDAY, JULY 12, 2023
2 8:01 A.M.
3
4 SAMUEL HARDIE RUSS, PhD
5 having been duly administered
6 an oath in accordance with CCP 2094,
7 was examined and testified as follows:
8 EXAMINATION
9 BY MR. DEVKAR:
10 Q. Good morning, Dr. Russ.
11 A. Good morning.
12 Q. Can you please state your full name for
13 the record.
14 A. Samuel Hardie, H-A-R-D-I-E, Russ, R-U-S-S.
15 Q. It's good to see you again. And I know we
16 went through this process just a short time ago so
17 we'll be doing it again today. I'll just briefly
18 review the ground rules that you probably remember
19 them well from last time, if that's all right?
20 A. Sure.
21 Q. So, first, we should make an effort not to
22 talk over one another. This makes it easier for the
23 court reporter to record what is being said. Does
24 that sound all right?
25 A. Yes.

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1 Q. If you don't understand a question, would
2 you please let me know and I will clarify?
3 A. Yes.
4 Q. During the deposition we'll make reference
5 to a number of exhibits from these IPR proceedings,
6 and my intent is to place any such exhibits in the
7 chat window so that you can download them to your
8 local machine. I think that's what we did last time
9 as well. Does that process work for you?
10 A. It does. And while we're on the subject
11 and on the record, I do have clean copies of these
12 files on my computer. Is it okay if I -- if I
13 access those clean copies on my local computer?
14 Q. That's fine with --
15 A. Or would you --
16 Q. That's fine with me. Is -- all of the
17 materials that you have with you are clean; is that
18 correct?
19 A. Yes, yeah, clean -- clean materials, no
20 notes, no sticky notes, no -- yes.
21 Q. And are all of the materials that you have
22 with you from the record of the IPR proceedings?
23 A. Yes.
24 Q. All right. Yeah, so as long as we're
25 referring to the same exhibit numbers, which I'll

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1 try to be clear about, then you can refer to any
2 copy you would like, but I'll still go ahead and
3 place the copies in the chat window so that the
4 court reporter has them and you're free download
5 them as -- as you would like.
6 A. Right. And I'll -- I'll be sure to
7 synchronize my remarks to those exhibit numbers so
8 that the record is clear.
9 Q. Great.
10 Are you aware of any reason that you are
11 not able to give full and truthful answers to my
12 questions today?
13 A. No reason that I'm aware of.
14 Q. What did you do to prepare for today's
15 deposition?
16 A. I read the materials involved in this,
17 including the patents, the prior art references that
18 are being cited, my declaration, the petition. I
19 believe I looked at -- anyway, I reviewed the
20 materials associated with the IPR. I also met with
21 counsel.
22 Q. When you said you met with counsel, was
23 that with Mr. Ryan?
24 A. It was with Mr. Ryan and Mr. Coyle.
25 Q. And when did you meet with counsel?

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1 A. Yesterday.
2 Q. Did you talk to anyone other than Mr. Ryan
3 and Mr. Coyle in preparing for today's deposition?
4 A. No, not that I recall.
5 Q. Today we'll be addressing your declaration
6 in connection with two related IPRs, which are IPR
7 2022-01093 and IPR 2022-01094.
8 Is it your understanding that you
9 submitted a declaration in each of these IPRs?
10 A. That's my -- that's my offhand
11 recollection, yes.
12 Q. I'm going to place your declaration for
13 these IPRs in the chat window so that we have those
14 two exhibits handy.
15 So in the chat window I've placed
16 Exhibit 2039 from each of the two subject IPRs. I
17 believe this -- these exhibits, 2039 are your
18 declarations in each of the IPRs. When you can
19 access those, can you see if that appears to be
20 correct to you?
21 (Whereupon Exhibit 2039 was marked for
22 identification.)
23 THE WITNESS: All right. Let's see. I'm
24 pulling up the first one now. Yes, that -- that one
25 appears to be correct. Let me pull up the second



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1 one.
2 That one also appears to be correct.
3 BY MR. DEVKAR:
4 Q. Okay. So Exhibit 2039 is your declaration
5 in each of the two subject IPRs; is that -- is that
6 correct?
7 A. That's correct.
8 Q. Now, your two declarations relating to the
9 '039 patent have substantially identical content.
10 Is that your understanding?
11 A. That's my recollection, yes.
12 Q. Do you recall any differences in this --
13 in the content of these two declarations?
14 A. I don't recall any differences.
15 Q. I'm also going to add Exhibit 1001 to the
16 chat window. This is the '039 patent.
17 (Whereupon Exhibit 1001 was marked for
18 identification.)
19 MR. DEVKAR: And for the record, the
20 subject patent, which we will refer to the -- as the
21 '039 patent, is US patent 8,620,039, which is
22 designated as Exhibit 1001 in each of the two IPR
23 proceedings.
24 BY MR. DEVKAR:
25 Q. Dr. Russ, is it your understanding that

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1 Exhibit 1001 is the '039 patent in each of the
2 subject IPRs?
3 A. Yes. That's -- that seems correct, yes.
4 Q. And can we agree that when either of us
5 refers to the '039 or '039 patent, that we are
6 referring to the patent at Exhibit 1001?
7 A. Yes.
8 Q. I believe my questions today will focus on
9 the central arguments in your declaration,
10 Exhibit 2039, in both of these IPRs. And I'll
11 intend for my questions to apply to your declaration
12 in both of these IPRs, however, if there are any
13 differences you are aware of between your
14 declarations in the two patents, we can focus on
15 them, but I -- I intend for my questions to
16 generally apply to both of your declarations unless
17 otherwise stated. Is that fair with you?
18 A. Yes, that is fair.
19 Q. So I'd like to then refer to your
20 declaration, Exhibit 2039. And for simplicity I'm
21 going to refer to your declaration in the IPR
22 2022-01093.
23 Can you please let me know when you have
24 that declaration handy?
25 A. I have that declaration up on my computer

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1 now. Thank you.
2 Q. I'd like to turn to paragraph 64 of your
3 declaration, Exhibit 2039.
4 A. Okay.
5 And Counselor, I'm sorry to interrupt your
6 line of questioning. There were two typographical
7 errors I noticed in my review yesterday and I wasn't
8 sure, and I don't know quite what the rules are and
9 when would be a good time to address those. I
10 understand you have a line of questioning you're
11 about to embark on, so I apologize for interrupting
12 that, but --
13 Q. No, no problem. Why don't we cover your
14 typographical errors first. Can you please explain
15 where those typographical errors?
16 A. Certainly. And I appreciate your
17 indulgence.
18 Let's see. The first is at the end of
19 paragraph 34, which is on page 13 or PDF page 16 of
20 my declaration.
21 Q. Okay.
22 A. The last sentence is incomplete. It says,
23 "the fifth step in this method requires," and then a
24 period. I meant to say, "the fifth step in this
25 method requires the completion of all previous

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1 steps."
2 Q. Thank you. I recall reading that sentence
3 and figuring that something was left out there, so
4 thanks for clarifying.
5 A. Yeah, good. Thank you.
6 And then in paragraph 41.
7 Q. Okay.
8 A. The last sentence says "set forth above in
9 paragraph 38." That should say "set forth above in
10 paragraph 40."
11 Q. Okay. I understand.
12 Are those the only errors that you're
13 aware of as we sit here right now in your
14 declaration?
15 A. Yes, those the only errors I'm aware of at
16 the moment, yes, thank you.
17 Q. Okay. Let's turn back then to paragraph
18 64, please, of your declaration.
19 A. Okay. I am there now.
20 Q. In paragraph 64 of your declaration you
21 identify three types of data storage solutions that
22 were common at the time of the '039 patent
23 invention; is that correct?
24 A. That is correct.
25 Q. Can you briefly summarize what each of



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1 these three common solutions for data storage are?
2 A. A searchable data rate -- excuse me, a
3 searchable database of records, an array of records
4 of fixed size, and having pointers to the records.
5 Q. Each of these types of data storage were
6 well-known before the time '039 patent application;
7 is that correct?
8 A. I believe that's correct, yes.
9 Q. Can you please turn to paragraph 10 of
10 your declaration.
11 A. Okay. I am there now.
12 Q. In paragraph 10 you refer to a product by
13 the name of eN-Touch 1000, which is eN-Touch, space,
14 1000, for the record.
15 Do you see that?
16 A. I do.
17 Q. And within paragraph 10 of your
18 declaration you state that, "The eN-Touch 1000 could
19 capture human signatures (and transmit them for
20 storage)."
21 Do you see that?
22 A. I do.
23 Q. Do you know how the human signatures would
24 have been stored in the eN-Touch 1000?
25 A. Well, the signatures were not stored in

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1 the eN-Touch 1000. They would have been stored at
2 the location to which they were transmitted. I
3 mean, the eN-Touch 1000 would store the signature
4 temporarily in RAM memory, transmit it for storage
5 to some other facility, and then I imagine clear
6 memory and use it -- so that it would be available
7 again for another signature. So the actual storage
8 would be done at a database that the customer that
9 was using the eN-Touch 1000 would be working with.
10 Q. Thanks for that clarification.
11 In the database in which the human
12 signatures would have been stored, what type of data
13 storage solution would have been used?
14 A. I -- I don't know. I did not work the
15 development of those, but I would imagine it was a
16 database of some sort.
17 Q. Referring back to the common types of data
18 storage that you refer to in paragraph 64 of your
19 declaration, would any of these types of common data
20 storage have been suitable for storing human
21 signatures captured by the eN-Touch 1000?
22 MR. RYAN: Objection. Form.
23 THE WITNESS: Well, I -- I know the
24 database method at least would be suitable. I
25 haven't considered the other two methods.

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1 BY MR. DEVKAR:
2 Q. Are you aware of any reason why the other
3 two methods would not have been suitable?
4 A. Well, I express opinions towards the end
5 of my report, roughly paragraphs 63 through 70, to
6 explain why the array approach would have been
7 unwieldy, and I think those opinions would be
8 relevant here as well.
9 Q. When you said that you believe the
10 database method of storing signatures would have
11 been at least one suitable to store the human
12 signatures captured by the eN-Touch 1000, are you
13 referring to a searchable database of records as
14 stated in your paragraph 64?
15 A. Well, first off, I'm not sure how this is
16 relevant to the matter at hand. Secondly, that --
17 that might be one way to do it or another way to
18 think about it would be the database of Hsu.
19 Q. The database of Hsu, meaning the H-S-U,
20 Hsu prior art reference, the subject IPRs?
21 A. Yes.
22 Q. Okay. So the database that was used in
23 Hsu would have been, in your opinion, a suitable way
24 of storing the human signatures captured by the
25 eN-Touch 1000?

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1 A. Well, haven't considered this in detail --
2 I'm sorry, Andy, did you have --
3 MR. RYAN: Yeah, objection to form. Go
4 ahead, Sam.
5 THE WITNESS: Okay. I haven't considered
6 this in detail. I'm not sure why this is relevant.
7 But just I -- you know, I would -- I would just
8 think that a database would be a way to store the
9 data of the eN-Touch 1000 -- excuse me. Would be a
10 way to store the information that the eN-Touch 1000
11 transmitted to a remote location.
12 BY MR. DEVKAR:
13 Q. And a searchable database of records was
14 at least one well-known storage technique as of the
15 time period before 2000 when the eN-Touch 1000 was a
16 commercial product; is that correct?
17 A. Yes, a searchable database of records, an
18 array of records of fixed size, and an unstructured
19 collection of records having pointers to each were
20 all well-known ways even prior to 2000.
21 Q. I'd like to refer to the institution
22 decision in each of the subject IPR proceedings
23 today. I've put one of those institution decisions
24 in the chat window, which is for IPR 2022-01093. My
25 questions, however, will relate to the content of



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<p style="text-align: right;">Page 17</p> <p>1 each of these institution decisions, which will be 2 the same for this line of questioning. 3 Can you please let me know when you've 4 downloaded or can access the institution decision 5 for IPR 2022-01093? 6 A. I have the institution decision on my 7 screen right now. 8 Q. I'd like you to turn to page 36 of the 9 institution decision. And that would be page 36 10 using the page number on the bottom of the pages. 11 A. I see that. 12 Q. Beginning on page 36 of the institution 13 decision should be a section relating to the 14 construction of the defining claim limitation. Do 15 you see that? 16 A. I do. 17 Q. This defining limitation is a subject of 18 much of the content and opinions in your 19 declaration; is that correct? 20 A. That's correct. 21 Q. I'd like to start by talking through the 22 various claim constructions or claim interpretation 23 of this defining claim limitation. 24 Are you aware that several different 25 constructions for the defining limitation have been</p>	<p style="text-align: right;">Page 19</p> <p>1 the declaration, but the witness can answer. 2 THE WITNESS: I don't recall expressing an 3 opinion as to whether I agree or disagree with this 4 claim interpretation. 5 Now, I note that because this talks about 6 "looking up," it appears to apply to a verification 7 step and not an enrollment step. But I don't recall 8 expressing an opinion either agreeing or disagreeing 9 with this interpretation. 10 BY MR. DEVKAR: 11 Q. And can you please clarify why you believe 12 it refers to an enrollment step but not a 13 verification step? 14 MR. RYAN: Objection. Misstates 15 testimony. 16 MR. DEVKAR: Oh, I'm -- I'm sorry. Strike 17 that. 18 BY MR. DEVKAR: 19 Q. Can you please explain why you believe the 20 first construction refers to a verification step but 21 not an enrollment step? 22 A. The claims are the -- or I should say the 23 claim language that's in dispute is -- well, let's 24 find the claim language that's in dispute. 25 Q. I believe it's stated right on page 36 of</p>
<p style="text-align: right;">Page 18</p> <p>1 considered by both the parties and the board in 2 these proceedings? 3 A. Yes, I am aware of that. 4 Q. So what I'd like do is step through each 5 of the constructions that have been either presented 6 or considered by the parties and board and talk 7 about what you agree or don't agree with from each 8 of those constructions. 9 Is that all right? 10 A. Okay. 11 Q. Let's start with the first interpretation 12 offered by petitioner, which is set forth on page 36 13 of the institution decision. Do you see that? 14 A. Yes. 15 Q. And the first interpretation reads, "A 16 memory location is somehow determined from (or is 17 dependent on) the card information. Under this 18 interpretation, the system can look up or otherwise 19 determine a specific memory location from a user's 20 card information." 21 Do you see that proposed construction? 22 A. I do. 23 Q. Do you agree with that construction for 24 the defining claim limitation? 25 MR. RYAN: Objection. Beyond the scope of</p>	<p style="text-align: right;">Page 20</p> <p>1 the institution decision. 2 A. It -- here, yes, and I'm actually on -- 3 just under paragraph 44 of my declaration, which is 4 where I have some -- some of the claims listed 5 verbatim. 6 You know, the -- it talks about defining a 7 memory location and then subsequently storing data 8 at that memory location. Or in Claim 3, providing 9 card information -- no wait. I'm sorry. If the 10 provided card information -- sorry, down to 3[D(1)], 11 storing the information at a memory location defined 12 by the provided card information. You know, these 13 are the claim limitations that are in dispute and 14 they -- they're talking about defining a memory 15 location and then storing data at it. And so the 16 claim limitations that are in dispute pertain to the 17 step of enrolling. 18 Now, the first interpretation talks about 19 looking up a memory location from a user's card 20 information. That -- that seems to imply that the 21 memory location is already -- has already been 22 established and you're looking it up. And so to the 23 extent that the interpretation does that, I 24 disagree. The -- this first interpretation I think 25 kind of strays a little bit away from the enrollment</p>



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