

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
Case IPR2023-00656
Patent 10,713,366

IRIUSRISK, INC.,
Petitioner,
v.
THREATMODELER SOFTWARE, INC.,
Patent Owner.

REMOTE DEPOSITION OF ROBERT HURLBUT

Monday, December 18, 2023 - 10:07 a.m.

Reported by:
Robin LaFemina, RPR, CLR
Job No.: 8409

December 18, 2023

10:07 a.m.

REMOTE DEPOSITION of

ROBERT HURLBUT, held via Zoom, with all
parties appearing from their respective
locations, before Robin LaFemina, a
Registered Professional Reporter, Certified
LiveNote Reporter and Notary Public within
and for the State of New York.

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1
2 THE COURT REPORTER: Good
3 afternoon. Today's date is December 18,
4 2023.

5 My name is Robin LaFemina and I
6 am the Court Reporter representing
7 TransPerfect Legal Solutions.

8 This deposition is being taken
9 remotely and the court reporter will
10 not be physically present with the
11 witness whose deposition is being
12 taken.

13 The parties agree not to
14 challenge the validity of any oath
15 administered by the court reporter,
16 even if the court reporter is a notary
17 of a state other than where the
18 deponent is currently physically
19 located.

20 Would each attendee, starting
21 with the examining attorney, please
22 indicate your agreement by stating
23 your name, your firm affiliation and
24 your agreement on the record, after
25 which I will swear in the witness.

1 Hurlbut

2 MR. JACKSON: So this is Don
3 Jackson, I'm with Rimôn P.C., and we
4 agree.

5 MR. MIDDLETON: This is Matthew
6 Middleton with DLA Piper. Agreed.

7 THE COURT REPORTER: Mr. Hurlbut,
8 would you raise your right hand, please.

9 Do you swear the testimony you
10 are about to give will be the truth,
11 the whole truth, and nothing but the
12 truth, and do you acknowledge that
13 although I am not physically present in
14 the room with you, that this oath is
15 administered with the same force and
16 effect as though I were?

17 THE WITNESS: I do.

18 THE COURT REPORTER: Counsel,
19 you may begin.

20 MR. JACKSON: Thank you.

21 EXAMINATION BY

22 MR. JACKSON:

23 Q. Mr. Hurlbut, can you tell me
24 where are you physically located?

25 A. Yes. I am in Infield,

1 Hurlbut

2 Connecticut.

3 Q. Okay.

4 And is there anybody else in the
5 room with you?

6 A. No, there is not.

7 Q. Okay.

8 And we're going to be using many
9 of the exhibits that are of record in this
10 IPR and we've arranged to hopefully be able
11 to exchange those documents using the
12 eDepoze system, so if you -- I know you
13 probably have work copies of exhibits and
14 documents you've used, but if you could
15 focus on the eDepoze version assuming I'm
16 able to use that correctly so that we're all
17 on the same page about what you're looking
18 at and what we're asking about.

19 A. Yes.

20 Q. Okay.

21 (IriusRisk Exhibit 1001,
22 Patent No. 10,713,366, marked for
23 identification, as of this date.)

24 So in preparing for today's
25 deposition, did you review, re-review

1 Hurlbut

2 the '336 patent?

3 A. Yes, I did.

4 Q. And in preparing for today's
5 deposition, did you also review the
6 declaration that you prepared in support of
7 the IPR petition?

8 A. Yes, I did.

9 Q. When you reviewed that
10 declaration, did you note any errors or
11 mistakes?

12 A. There was one mistake that was
13 also noted I believe in a response. It was
14 a point to Keenan when it should have been
15 to Zheng, but otherwise everything was in
16 order.

17 Q. Okay.

18 If we come across that paragraph
19 in your declaration, will you point out that
20 mistake?

21 A. Yes.

22 Q. Okay. Thank you.

23 Let's go ahead and get this up
24 for us. I want to put your Declaration out
25 there.

1 Hurlbut
2 (IriusRisk Exhibit 1003,
3 Declaration of Robert Hurlbut, marked
4 for identification, as of this date.)

5 Q. It has already been marked in
6 this IPR as Exhibit 1003, but let me see if
7 I can put that on the -- and let me see if I
8 can share this with you.

9 And can you see your
10 declaration?

11 A. Yes.

12 Q. Okay. Great.

13 And at the bottom it says
14 Exhibit 1003; is that right? Bottom of the
15 first page. I'm sorry.

16 A. Let me see if I can maybe expand
17 it.

18 I do not see that. I do not --
19 I don't see that.

20 Q. Okay.

21 A. I see a page number at the
22 bottom. I don't see that this is Exhibit 1003.

23 Q. Okay.

24 Does this look like the
25 declaration you prepared?

1 Hurlbut

2 A. It does.

3 Q. Okay. Great. Thank you.

4 Let me ask you a little bit
5 about what you do.

6 So how would you describe your
7 primary job or role today?

8 A. Certainly. Today I am a threat
9 modeling lead and architect focused on
10 helping teams, developers, architects and
11 other folks understand about threat
12 modeling.

13 Q. Do you work for a company?

14 A. I do. I work for Aquia and have
15 for two years.

16 Q. Is that a company that you own
17 or is that owned by others?

18 A. It is owned by others.

19 Q. Okay.

20 Does IriusRisk have any
21 ownership interest in that company?

22 A. No.

23 Q. Okay.

24 And in preparing for today, I
25 ran across a couple of instances at least

1 Hurlbut
2 where you have spoken at conferences
3 relating to threat modeling; is that
4 correct?

5 A. That is correct.

6 Q. Okay.

7 And what was the most recent
8 conference at which you spoke?

9 A. The most recent conference would
10 be the threat modeling conference that was
11 in Washington, DC.

12 Q. Was that called ThreatModCon --

13 A. Correct.

14 Q. -- 2023?

15 A. Yes. ThreatModCon was like it's
16 official name; yes.

17 Q. Okay.

18 And were you paid to attend or
19 speak at that conference?

20 A. No.

21 Q. Does -- did anyone pay for your
22 travel expenses for that conference?

23 A. My company did.

24 Q. Okay.

25 And was your company reimbursed

1 Hurlbut

2 for those travel expenses?

3 A. No.

4 Q. How about more specifically for
5 your hotel? Who paid for your hotel while
6 you were at the conference?

7 A. My company did.

8 Q. And how about for your meals
9 while at the conference?

10 A. Meals were generally provided,
11 but anything that was outside of that,
12 again, the company reimbursed.

13 Q. Okay.

14 And is there a regular set of
15 conferences that you tend to speak at?

16 A. It depends. There are certain
17 ones that I will sometimes submit to, ones
18 that I enjoy attending or speaking at, but
19 there's no set of conferences.

20 Q. Okay.

21 And this ThreatModCon 2023, was
22 this the first year that that particular
23 conference was held?

24 A. Yes. That's right.

25 Q. Do you anticipate participating

1 Hurlbut

2 at that conference in the future?

3 A. Yes.

4 Q. And does IriusRisk sponsor that
5 conference?

6 A. They do.

7 Q. And do you know individuals that
8 work at IriusRisk, whether they be officers
9 or employees?

10 A. I do know some folks that work
11 at IriusRisk.

12 Q. Have you ever worked with any
13 folks from IriusRisk?

14 A. No.

15 Q. Can you tell us a couple of
16 people that you know from IriusRisk?

17 A. Steven De Vries, the CEO, and I
18 apologize, there's another person, and I
19 cannot recall the name at the moment, but
20 there's another person that I've met, but I
21 don't know that well.

22 Q. Okay.

23 And I looked at their website.
24 There are a few people that I thought maybe
25 would be folks that you knew. Mr. De Vries

1 Hurlbut

2 was one. What about a Cristina Bentué? I'm

3 not sure I'm pronouncing her last name.

4 A. That was the person I was

5 speaking of.

6 Q. Okay.

7 And do you know a Paul

8 Santapau --

9 A. I do not.

10 Q. -- at IriusRisk?

11 A. I do not.

12 Q. How about Fraser Scott?

13 A. I do know Fraser; yes.

14 Q. And there was also a gentleman

15 named Adam Shostack --

16 A. Yes.

17 Q. -- do you know him?

18 A. Yes.

19 Q. And have you ever worked with

20 Mr. Shostack --

21 A. No.

22 Q. -- on anything?

23 Okay.

24 A. We -- let me back up. I've

25 not -- I've worked with him on -- we were

1 Hurlbut
2 both on a contract or I was -- no. I
3 apologize. There were two different times
4 that I worked at the same location, me on a
5 contract and him on a contract, but we were
6 not at the same time.

7 Q. Two separate contracts, but
8 in -- with a time --

9 A. Right.

10 Q. -- perspective?

11 A. Right. Two different times at
12 the same employer, which was Bank of
13 America.

14 Q. Were you consulting with Bank of
15 America or were you employed by Bank of
16 America? I guess under the contract.

17 A. Under the contract, I was
18 consulting, and then later I became an
19 employee.

20 Q. Okay.

21 And your work history is
22 accurately laid out in your declaration;
23 correct?

24 A. That is correct.

25 Q. And let me go back to

1 Hurlbut

2 Mr. De Vries.

3 How do you know Mr. De Vries?

4 A. Generally through the thread
5 modeling community. I first met Mr. De Vries
6 I would say about maybe five to ten -- well,
7 definitely 10:00 I think years ago at a
8 conference where he spoke on threat
9 modeling, I met him for the first time.
10 At various other times, I've seen him at
11 conferences typically, but there's also a
12 number of other folks in the threat modeling
13 community, that's how we know each other,
14 it's a very small community.

15 Q. How about Cristina Bentué? How
16 do you know her?

17 A. Really just met for the first
18 time at ThreatModCon.

19 Q. Okay.
20 This year; correct?

21 A. This year. This year. I knew
22 the name, but I had never met her before.

23 Q. And do you remember at least
24 what month that conference was?

25 A. It was in -- I'm going to say it

1 Hurlbut

2 was either end of October, early November.

3 It was around that time frame.

4 Q. Okay. Let me ask you about
5 Fraser Scott. How do you know Fraser Scott?

6 A. Previously Fraser Scott worked
7 at Capital One, and when I was at Bank of
8 America, Fraser Scott and another employee
9 reached out to me, after I had been part of
10 Bank of America and the threat modeling
11 program, reached out because they were also
12 working on a threat modeling program at
13 Capital One.

14 Q. And did you -- in that context,
15 did you work or collaborate with Mr. Scott?

16 A. No. No.

17 Q. Okay.

18 Let me ask you about your
19 declaration. Thank you.

20 When you wrote your declaration,
21 did you have an understanding of what the
22 different terms that were used, the
23 technical terms that were used in the '366
24 patent meant?

25 A. Yes, I did.

1 Hurlbut

2 Q. And was your understanding based
3 on the knowledge of those skilled in the art
4 as of May 2017?

5 A. Yes.

6 Q. And when you did your analysis
7 of the prior art, did you apply that May
8 2017 understanding of the various claim
9 terms?

10 A. Yes.

11 Q. And what is the purpose of a
12 threat model?

13 A. The purpose of a threat model is
14 to help the person who is creating it to
15 understand the potential threats to a system
16 or to an environment, to whatever they are
17 most concerned about, and that in turn, as
18 they understand those threats, will help
19 them build or maybe develop a better more
20 secure system. The threat model will also
21 help in not only identifying threats, but
22 also ideally mitigations, countermeasures
23 against those threats, and in turn a threat
24 model will help with, once you identify
25 threats, you identify mitigations, will help

1 Hurlbut
2 with identifying risk or understanding the
3 various levels of risk. As a result of
4 those threats being realized, that in turn
5 could maybe be more risk, less risk and so
6 forth.

7 Q. Okay.

8 And do you have sort of a
9 working definition of a threat model that
10 you use?

11 A. Generally that, but, you know,
12 threat model is a tool or activity to help
13 someone think about potential threats in a
14 system, the countermeasures and how to deal
15 with those threats.

16 Q. Okay.

17 And how about the word threat?
18 Do you have a definition for that term?

19 A. Yes. So a threat is an
20 undesirable event that may happen. That
21 could be incidental. So maybe something is
22 not available, maybe a database is not set
23 up correctly, or it could be intentional, an
24 attacker trying to circumvent a dedication
25 or maybe a particular kind of an attack.

1 Hurlbut

2 Q. And then in the '366 patent,
3 that patent uses the phrase or the term
4 threat modeling components; correct?

5 A. Yes.

6 Q. And as used in the '366 patent,
7 what's your understanding of the meaning of
8 that term?

9 A. The threat model components are
10 the visual elements of a diagram that have
11 been translated into a computer version or
12 computer application, so that something that
13 represents what's helping a person to
14 understand the threat model to help, so
15 those particular elements, those visual
16 elements is what helps somebody
17 understanding the threat model, where the
18 threats may happen and so forth.

19 Q. Okay. Let me see if I can
20 navigate us.

21 A. Sure.

22 Q. In your declaration here.
23 Do you see the page that has
24 paragraphs 40, 41 and 42 on it?

25 A. I do.

1 Hurlbut

2 Q. Okay.

3 And then in paragraph 40, is
4 that a definition of threat model component?

5 MR. MIDDLETON: Objection.

6 Form.

7 Q. You can go ahead and answer.

8 A. Okay.

9 Each threat model component is a
10 potential relevant source for one or more
11 threats. Yeah, I accept that answer.

12 Q. You'd accept that answer as a
13 definition of threat model components --

14 A. Yes.

15 Q. -- is that right?

16 A. Yes.

17 Q. Okay.

18 Let me see here. I think there
19 is also a relevant paragraph. Sorry. And
20 do you see paragraph 60 on the screen?

21 A. Yes.

22 Q. And in that paragraph, you're
23 stating your opinion as to the meaning of
24 threat model component; is that right?

25 A. That is correct.

1 Hurlbut

2 Q. Okay.

3 A. What I say, visual elements,
4 those are the source of one or more threats,
5 so, again, your visual depiction of the
6 various components indicate as sources for
7 those particular threats.

8 Q. And when you say sources, are we
9 referring to some sort of real world object
10 or device?

11 A. It could be, but, again, it's a
12 diagram -- typically a diagram that
13 represents, it could be a real world device,
14 it could be a system, it could be -- or even
15 an activity or process of some sort.

16 Q. Okay.

17 And that's consistent with your
18 reading of the '366 patent; right?

19 A. Yes.

20 Q. You mentioned the term risk
21 earlier as well. Now, am I correct that the
22 term risk is not in any of the claims of the
23 '366 patent?

24 A. There's some elements of, if I
25 remember correctly, and I'd have to look at

1 Hurlbut

2 it again just to refresh, but as I recall,
3 there is mention of risk level, there is
4 mention of how the threats can reveal
5 potential risk, but it's really focused more
6 on threats and threat modeling.

7 Q. Okay.

8 And I'm not -- this is not a
9 memory test, but are you saying that you do
10 remember, at least have a vague memory that
11 that phrase or that concept at least was in
12 some of the claims of the '366 patent?

13 A. At least risk level. I do
14 remember that.

15 Q. Okay.

16 A. But that -- again, that's -- I'd
17 have to look again.

18 Q. Okay. That's fine.

19 And in May of 2017, was the term
20 risk commonly used in the threat modeling
21 field?

22 A. Yes. Yes.

23 Q. And in your declaration, I know
24 you said that risk is discussed in the '366
25 patent; correct?

1 Hurlbut

2 A. Yes.

3 Q. Based on your read of the '366
4 patent, does that patent use the term risk
5 consistent with the way that term was
6 understood and used in the field of threat
7 modeling in May of 2017?

8 MR. MIDDLETON: Objection.
9 Form.

10 A. As I recall, yes.

11 Q. And how would you define risk
12 from the perspective of person of skill in
13 the art in May of 2017? How would you
14 define risk?

15 A. Sure. Risk is a -- essentially
16 a product or in general relation to threat
17 modeling is a product of probability, the
18 possibility, probability of a threat being
19 realized as well as the impact of that
20 threat. If it's a major threat that's going
21 to take out a system, then it might be a
22 high risk. If there's the probability it
23 could happen, you know, definitely could
24 happen, then that's a high risk. Low
25 probability, low impact is a low risk. So

1 Hurlbut

2 it's in general in relation to threat and
3 severity of that threat, the impact of that
4 threat and the probability of that threat,
5 the likelihood of that threat.

6 Q. Okay.

7 I'm sorry. I'm trying to
8 navigate for documents.

9 A. No problem.

10 Q. Okay. Let me come back to that
11 later.

12 Let me ask you about the term
13 vulnerability. What does that mean? Again,
14 just so we're not wasting these questions,
15 when I ask you these questions about what do
16 things mean, I'm really looking for the
17 May 2017 understanding by a person of skill
18 in the art. What does the term
19 vulnerability mean?

20 MR. MIDDLETON: Objection.

21 Form.

22 A. Vulnerability is related to a
23 flaw, it could be a design flaw, it could be
24 an implementation error or bug as they're
25 commonly called that allows the -- or an

1 Hurlbut
2 attacker to compromise a system which then
3 in turn results in a threat. If you are
4 able to close vulnerabilities, then the
5 threat is minimized.

6 Q. So a vulnerability -- is it fair
7 to say that a vulnerability is something
8 that a threat potentially can exploit?

9 A. Correct. Yes.

10 MR. MIDDLETON: Objection to
11 form.

12 Q. But it's something that's
13 different from a threat itself; correct?

14 A. Yes.

15 MR. MIDDLETON: Objection.
16 Form.

17 Q. All right. Let me ask you about
18 mapping files. As used in the '366 patent,
19 and again from the perspective of a person
20 of skill in the art in May of 2017, what
21 does the term mapping files mean?

22 A. A mapping file is actually a
23 general term that's well-known for those who
24 are skilled in the art at that time to
25 understand that you're mapping or

Hurlbut

correlating data from a source to a target,
and the mapping file itself is a
representation, it's not necessarily a file,
it could be contained within source code, it
could be contained within memory that you
read in and then work off of, it could be in
a table, it could be in a table in a
database, and this is also stated in '366.
It doesn't have to be a file, an actual
physical file. It could be a table, it
could be another -- in other places as well.
The file -- mapping file traditionally and
historically was a file, could have been a
file to contain data, but, again, over time,
the term is used, but it doesn't necessarily
mean it is actually a physical file in every
case.

Q. Okay.

And the purpose -- just again to
recap, I'm sorry, I'm just trying to make
notes -- but the purpose of the mapping file
is to correlate data from a source to a
destination --

A. That is correct.

1 Hurlbut

2 Q. -- did I get that correct?

3 A. That is correct.

4 Q. And let me see if I can go back
5 to your declaration.

6 And do you see paragraph 55 of
7 your declaration on the screen?

8 A. I do.

9 Q. Okay.

10 And in this paragraph, do you
11 provide a definition of visual
12 representations of threat model components?

13 A. So let's see -- applicant
14 provided definitions, further definitions in
15 the file history asserting that the third
16 party diagram components are components, and
17 that visual representations of the threat
18 model components are components of the
19 native software, stored in databases/servers
20 locally or remotely but coupled with the
21 system.

22 Q. Okay.

23 And I understand that you're
24 saying the applicant provided that during
25 prosecution of the patent, but for your --

1 Hurlbut
2 purposes of your analysis in your
3 declaration, is that the definition of
4 visual representations of the threat model
5 components --

6 A. Yes.

7 Q. -- that you used?

8 A. Yes.

9 Q. Okay.

10 And based on reading the '366
11 patent, do you think that's an appropriate
12 definition for that term?

13 A. Yes.

14 Q. So in this definition that you
15 have here, there's the phrase native
16 software. Do you see that?

17 A. Let me expand it again.

18 Yes.

19 Q. What does native software mean?

20 MR. MIDDLETON: Objection.

21 Form.

22 A. The native software would be the
23 software that you're working with, the --
24 that you're working on or that you're in
25 control of in some way. In this case, maybe

1 Hurlbut

2 an application that you're writing.

3 Q. Okay.

4 Just to clarify, I'm sorry, are
5 you saying native software is the threat
6 modeling software or is it something else?

7 MR. MIDDLETON: Objection.

8 Form.

9 A. I think it's context, but in
10 this case, it looks like -- it looks like
11 the software that you're threat modeling.

12 Q. Okay.

13 So this would -- okay. So this
14 is not the threat modeling software, this is
15 the software that's being analyzed by the --
16 in the threat model; is that right?

17 MR. MIDDLETON: Objection.

18 Form.

19 A. Again, that's -- that's -- I'm
20 looking -- I'm trying to make sure I can
21 determine the context here, but that's what
22 it looks like to me.

23 Q. All right.

24 Sorry. This is a little slow.

25 I'm trying to get used to this software.

1 Hurlbut

2 A. No problem.

3 Q. Okay. Let me show you a
4 document relating to risk.

5 (Robert Hurlbut Exhibit 2003,
6 CIO article entitled Risk = Likelihood
7 x Impact, marked for identification, as
8 of this date.)

9 Q. Do you see what I've marked as
10 Exhibit 2003?

11 Oh, let me share. Sorry.

12 Do you see what I marked as
13 Exhibit 2003 now or is that not on your
14 screen?

15 A. I -- I think so. Risk =
16 Likelihood x Impact?

17 Q. Yes.

18 A. Yes. Yeah.

19 MR. MIDDLETON: Objection.
20 Form. Outside the scope.

21 Q. And earlier you gave us your
22 definition of risk; correct?

23 A. Mm-hmm. Yes.

24 Q. And is this -- let me show you
25 page 2. This -- the title -- this is an

1 Hurlbut
2 article from CIO Magazine; is that what it
3 appears to be?

4 A. Yes.

5 MR. MIDDLETON: Objection.

6 Form. Outside the scope.

7 Q. And the title of the article is
8 called Risk = Likelihood x Impact.

9 Do you see that?

10 A. I do; yes.

11 MR. MIDDLETON: Objection.

12 Form. Outside the scope.

13 Q. And then on page 2 of this
14 article -- can you see page 2, first of all?

15 A. Yes.

16 Q. Okay.

17 And up at the top under the
18 subheading Risk = Likelihood x Impact, do
19 you see a -- the first sentence there?

20 A. Yes.

21 MR. MIDDLETON: Objection.

22 Form. Outside the scope.

23 Q. And is this first sentence
24 consistent with your definition of risk that
25 you provided us earlier?

1 Hurlbut

2 A. It is.

3 MR. MIDDLETON: Objection.

4 Form. Outside the scope.

5 Q. Are you familiar with NIST,

6 N-I-S-T?

7 A. Yes, I am.

8 MR. MIDDLETON: Objection.

9 Form. Outside the scope.

10 Q. What is NIST?

11 MR. MIDDLETON: Objection.

12 Form. Outside the scope.

13 A. National Information System.

14 Q. Let me --

15 A. I'm trying to see if I remember
16 correctly. I'm trying to remember the
17 acronym.

18 Q. That's okay. Let me show you a
19 document that might answer that question.
20 And hopefully you can see -- wait a minute.
21 One more time.

22 A. I saw it for a moment.

23 (Robert Hurlbut Exhibit 2004,
24 Draft NIST Special Publication 800-154,
25 marked for identification, as of this

1 Hurlbut

2 date.)

3 Q. Okay. I've marked a document
4 from NIST as Exhibit 2004 and I'm showing
5 you that document here on the screen.

6 Does that refresh your memory as
7 to what NIST stands for?

8 A. It does. I was thinking of
9 standards, but yes, it does.

10 Q. And what is NIST?

11 A. National Institute --

12 MR. MIDDLETON: Objection.

13 Form. Outside the scope.

14 A. The National Institute of
15 Standards and Technology.

16 Q. And this is entitled Draft NIST
17 Special Publication 800-154.

18 Do you see that at the top?

19 A. I do; yes.

20 MR. MIDDLETON: Objection.

21 Form. Outside the scope.

22 Q. Is this document the kind of a
23 document that those working in threat
24 modeling would be familiar with?

25 MR. MIDDLETON: Objection.

1 Hurlbut

2 Form. Outside the scope.

3 A. Yes. It's an early document,
4 but yes.

5 Q. Yeah. And I'm on page 2 of that
6 document. Do you see a date at roughly line
7 40 or 41?

8 A. Yes.

9 Q. And the date's March 2016 --

10 A. Yes.

11 Q. -- correct?

12 A. Yes.

13 Q. So this is roughly a year prior
14 to the critical date that you used for your
15 analysis of the '366 patent; correct?

16 A. Yes.

17 Q. And in May of 2017, were you
18 familiar with this document?

19 MR. MIDDLETON: Objection.

20 Form. Outside the scope.

21 A. Yes, I was.

22 Q. Is this document something that
23 those in the field of threat modeling would
24 have relied upon or referred to as part of
25 their work in May of 2017?

1 Hurlbut

2 MR. MIDDLETON: Objection.

3 Form. Outside the scope.

4 A. That one's a difficult question
5 to answer, and the reason is that those in
6 threat modeling were definitely aware of
7 this document, but not necessarily applying
8 this document or the particular process that
9 they advocated in this document at this
10 time.

11 Q. And I'm on -- I've moved us to
12 what's labeled as page 6 of this document.
13 It's really PDF page 11 of the electronic
14 file.

15 Do you see a section heading
16 2.1.4 Threat?

17 A. Yes.

18 Q. And rather than me read this
19 into the record, would you read the first
20 sentence in that paragraph and then let me
21 know when you've finished reading it,
22 please?

23 A. Okay.

24 A threat is defined in this
25 Special Publication (SP) 800-30 as "any

1 Hurlbut

2 circumstance or event with the potential to
3 adversely impact organizational operations
4 and assets, individuals, other
5 organizations, or the Nation through an
6 information system via unauthorized access,
7 destruction, disclosure, or modification of
8 information, and/or denial of service."

9 Q. Okay.

10 And in May of 2017, would a
11 person of skill in the art have understood
12 that term threat to have that particular
13 meaning?

14 MR. MIDDLETON: Objection.

15 Scope. Outside the scope.

16 MR. YAMASHITA: Counsel, let me
17 ask a question. Does Mr. Hurlbut have
18 the ability to control documents as you
19 show them? If not, I'd ask that you
20 give him that ability so that he can --
21 when you show him a document, he can
22 read the whole thing if he wants to, he
23 can look at adjoining paragraphs, etc.,
24 the way you could if you were handing
25 him a paper document.

1 Hurlbut

2 Do you understand what I'm
3 asking?

4 MR. JACKSON: Yes. I'm looking
5 for -- if I could ask the court
6 reporter, the control bar at the top of
7 my screen keeps disappearing. Do you
8 know how to make that permanently
9 shown?

10 THE COURT REPORTER: Do you want
11 to go off the record?

12 MR. JACKSON: Sure. Why don't
13 we do that.

14 (Whereupon, a discussion was
15 held off the record.)

16 CONTINUED BY MR. JACKSON:

17 Q. Thanks, Mr. Hurlbut.

18 Again, we were looking at
19 page 11 of this exhibit. Are you -- do you
20 have that on your screen?

21 A. I do; yes.

22 Q. Okay.

23 And I was asking you about the
24 first sentence of 2.1.4; correct?

25 A. Yes.

1 Hurlbut

2 Q. And that provides a definition
3 of the term threat; correct?

4 A. Yes.

5 Q. And I was -- I think I asked
6 you, was that term consistent with your
7 understanding of the term threat in May of
8 2017?

9 MR. MIDDLETON: Objection.

10 Form. Outside the scope.

11 A. This definition and my
12 understanding at that time is slightly
13 different, and the reason I say that is --
14 and it is partly because the background of
15 NIST is all about or mostly about computer
16 threats or computer security, so this
17 definition is really about computer threats.
18 It does not include potential threats, a
19 person being a threat. In my declaration,
20 I mention about a potential customer or
21 potential attacker or robber, rather, at a
22 bank wanting to be able to take money.
23 That's a threat. That person and the things
24 they're trying to do is a threat. But under
25 that -- under this definition, they would

1 Hurlbut
2 not -- that would not be considered, and so
3 this is -- it is a threat, but it's a
4 computer threat, so within context, I would
5 understand this in May of 2017 as a computer
6 threat, but not as a general threat.

7 Q. Okay.

8 So you would -- it sounds like
9 if you were asked to give a meaning of the
10 term threat in the context of the '366
11 patent, you would not adopt this definition;
12 is that fair?

13 A. That's fair. I think for '366,
14 they're -- in fact, even in '366, it
15 describes other kinds of threats as well.
16 It acknowledges that there's other kinds of
17 threats as well.

18 Q. Okay.

19 I'm marking as 2005 an excerpt
20 of a book entitled Measuring and Managing
21 Information Risk, A FAIR Approach, F-A-I-R,
22 and that's all caps.

23 (Robert Hurlbut Exhibit 2005,
24 excerpt from book entitled Measuring
25 and Managing Information Risk, A FAIR

1 Hurlbut

2 Approach, marked for identification, as
3 of this date.)

4 Q. First of all, have you -- do you
5 see that document on your end?

6 A. I do. Yes.

7 Q. Okay. Great.

8 And you can open that?

9 A. Yes.

10 Q. Okay.

11 And do you see the first page
12 there?

13 A. I do.

14 Q. Are you familiar with this book?

15 A. I am; yes.

16 Q. Is this book related to threat
17 modeling?

18 MR. MIDDLETON: Objection.

19 Form. Outside the scope.

20 A. Indirectly.

21 Q. What do you mean by indirectly?

22 MR. MIDDLETON: Objection.

23 Form. Outside the scope.

24 A. It's not a threat modeling book.

25 It's certainly not considered to be one of

1 Hurlbut
2 the main threat modeling books that if
3 somebody was studying threat modeling.
4 However, I do know that there are certain
5 threat modeling books that have referred to
6 it in terms of having to understand a little
7 bit about risk, but the book itself is not a
8 threat modeling book.

9 Q. All right. Let me show you the
10 last -- as I said, this is just an excerpt
11 of this book, and this is page 8 of this
12 book, Exhibit 2005.

13 Do you see that?

14 A. Let me get to page 8.

15 Q. Okay.

16 A. Okay. I'm on page 8.

17 Q. I can't -- I don't know how to
18 highlight for you, so let me just try to
19 direct you verbally. In the first full
20 paragraph at the top of the page that begins
21 with the question, what about risk? Do you
22 see that paragraph?

23 A. Oh, yes.

24 MR. MIDDLETON: Objection.

25 Form. Outside the scope.

1 Hurlbut

2 Q. And then toward the middle of
3 that paragraph, there's a sentence that
4 begins with the phrase similar to speed
5 comma.

6 Do you see that?

7 A. Yes.

8 MR. MIDDLETON: Objection.

9 Form. Outside the scope.

10 Q. Could you take a second to read
11 that sentence? You can read other parts if
12 you'd like, but I would like you to read
13 that sentence.

14 A. Okay. This is out of context
15 though, so it may be better to read the
16 whole paragraph.

17 Q. Sure. Go ahead. You don't have
18 to read it in the record. You can just read
19 it to yourself. It's totally up to you.

20 A. Okay.

21 (Witness reviewing document.)

22 A. The sentence before it, risk is
23 not a thing, we can't see it, touch it, or
24 measure it directly. Similar to speed,
25 which is derived from distance divided by

1 Hurlbut
2 term, risk is a derived value that
3 represents loss exposure. It's derived from
4 the combination of factors described in
5 FAIR's ontology.

6 Q. Okay. I don't have the page
7 showing FAIR's ontology, but with respect to
8 the prior sentence which is risk is a
9 derived value that represents loss exposure,
10 would you agree with that characterization
11 of risk?

12 MR. MIDDLETON: Objection.

13 Form. Outside the scope.

14 A. This is -- I'm familiar with
15 FAIR and this is certainly their definition
16 of risk. They also -- and I know threat is
17 below that as well. They have slightly
18 different definitions and this is why I said
19 it's not considered to be a threat modeling
20 book because it looks at risks, it looks at
21 threats slightly different than most other
22 threat modeling resources.

23 Q. So just to kind of put a pin in
24 that or put a bow on that, you would not
25 adopt this definition of risk as the

1 Hurlbut

2 definition to a person of skill in the art
3 of May of 2017; is that fair?

4 MR. MIDDLETON: Objection.

5 Form. Outside the scope.

6 A. As a person of skill in the art
7 in May of 2017, I would have recognized it
8 as a definition in the context. FAIR is an
9 approach to do risk management, which is a
10 whole other area of security as well, so,
11 again, I would understand this definition in
12 that context as opposed to in relation to
13 threat modeling to somebody with skill in
14 the art in May of 2017.

15 Q. Okay.

16 (IriusRisk Exhibit 1004,
17 Patent No. 11,200,228, marked for
18 identification, as of this date.)

19 Q. I have just hopefully shared
20 with you a copy of the Keenan reference --

21 A. Yes.

22 Q. -- which was marked as
23 Exhibit 1004; correct?

24 A. Yes.

25 Q. And you have that?

1 Hurlbut

2 A. I do; yes.

3 Q. Great.

4 And I give that to you mostly
5 just so you can refer to it if you need to.

6 Is it correct -- am I correct
7 that Keenan -- well, first of all, Keenan is
8 one of the primary references you analyzed
9 in your declaration; correct?

10 A. That is correct.

11 Q. And did you review Keenan in
12 preparing for today's deposition?

13 A. I did; yes.

14 Q. Am I correct that Keenan only
15 mentions the word threat twice?

16 A. As I recall, I think it is once
17 or twice; yes.

18 Q. And each time Keenan refers to
19 threats, that's related to color coding
20 object shapes based on the technical risk
21 ranking of that object; correct?

22 A. Yes.

23 Q. I want to go back to your
24 declaration and ask you about some
25 statements you have in your declaration, so

1 Hurlbut

2 that was Exhibit 1003 just for your
3 reference.

4 A. Mm-hmm.

5 Q. And in particular, I want to go
6 to paragraph 79.

7 A. Can you bring that back or do
8 I -- I guess I have control to go pull that
9 up?

10 Q. I think you have control. And I
11 think that should be on PDF page 46 if my
12 notes are correct.

13 A. Okay.

14 Q. Sorry. That's not correct.

15 A. Okay.

16 Q. It's a long paragraph that
17 actually spans -- starts on PDF page 43 and
18 goes all the way over to PDF page 46, so
19 it's quite lengthy.

20 A. Okay.

21 Q. So maybe we should start at PDF
22 page 43?

23 A. Okay. Is that 79?

24 Q. 79. Correct.

25 A. Okay.

1 Hurlbut

2 Q. Paragraph 79.

3 A. Okay.

4 Q. And --

5 MR. MIDDLETON: And Robert, you
6 have control of that?

7 THE WITNESS: I do; yeah. Yes.

8 A. Okay. What would you like me to
9 do? Sorry.

10 Q. Sure. And you may have to read,
11 you know, part of this paragraph. Like I
12 say, it's quite lengthy, feel free to do so,
13 but in paragraph 79 and in particular it
14 looks like it's on PDF page 43, in fact, you
15 say that risk includes threats and that
16 assets are sources of threats/threat model
17 components.

18 A. Mm-hmm.

19 Q. Do you see that?

20 A. Yes.

21 Q. And then you cite to Keenan;
22 correct? That's Exhibit 1004?

23 A. Yes.

24 Q. And in particular at -- you cite
25 to the abstract as well as to column 1,

1 Hurlbut

2 lines 31 to 46; correct?

3 A. Is that in the second -- sorry.

4 Second on page 44?

5 Q. 43. It's --

6 A. Sorry. I see it now.

7 Q. It bridges the third and fourth
8 lines. Do you see that?

9 A. Yes.

10 Q. Okay.

11 So I want to look at that part
12 of Keenan if we can.

13 A. Okay.

14 Q. So let's go back to Exhibit 1004.

15 A. Okay. And which -- just to make
16 sure, you want to look at what part,
17 1:31-46?

18 Q. Let's start with the abstract.
19 You cited the abstract as well as 1 --

20 A. The abstract?

21 Q. Yes. So the abstract is on the
22 first page of 1004. Have you gotten there
23 yet?

24 A. Yes.

25 Q. It looks like every time you

1 Hurlbut

2 reopen it, I have to go back to where I was,
3 but that's okay.

4 A. Okay. I'm there.

5 Q. And you're looking at the
6 abstract, just to make sure we're on the
7 same page?

8 A. I am; yes.

9 Q. Okay.

10 A. That was 1:31-40.

11 Q. Okay. So the abstract is
12 actually on the first page -- those are two
13 different things.

14 A. My apologies.

15 Q. That's okay.

16 So let's go to -- if you go to
17 the first page --

18 A. Yes, I'm there.

19 Q. -- of Keenan.

20 Okay.

21 A. Yeah, I'm there again.

22 Q. And you'll see the abstract is
23 on the -- roughly the middle right-hand
24 column.

25 A. Yes.

1 Hurlbut

2 Q. Could you take a moment to read
3 the abstract, please?

4 A. Sure. A system and method are
5 described to create and use an Integrated
6 Object Environment (IOE) running on a graph
7 database environment. Uses include storing,
8 revealing and maintaining value and risk of
9 information assets, such as the topology of
10 an analytical infrastructure and
11 query-driven graph database. A graphical
12 user interface is described to permit
13 importation, viewing, modification and
14 querying in the IOE.

15 Q. Okay.

16 And in what way does that
17 abstract -- assuming it does -- you can tell
18 me if it does or doesn't -- but does the
19 abstract that you just read, does that
20 support the idea that risk includes threats?

21 MR. MIDDLETON: Objection.

22 Form.

23 A. We've mentioned a few times, but
24 I think of risk as representing threats, the
25 presence of threats that I -- when I'm

1 Hurlbut
2 measuring risk, I'm measuring the impact of
3 that threat, the likelihood of that threat,
4 and so when I see risk of information
5 assets, then I'm understanding the threat
6 that can result in the risk.

7 Q. Okay.

8 Let me ask you to go to column 1,
9 line 31.

10 A. Okay.

11 Okay.

12 Q. So the other citation in your
13 declaration was column 1, line 31 to 46.
14 Would you take a moment to read that? And,
15 again, you can read that to yourself. You
16 don't have to read it out loud.

17 A. Okay.

18 (Witness reviewing document.)

19 A. Okay.

20 Q. Does that paragraph support the
21 idea that risk includes threats?

22 MR. MIDDLETON: Objection.

23 Form.

24 A. Again, I understand risk as a
25 product of the two I mentioned, and so which

1 Hurlbut

2 leads to the possibility of threats that
3 impact in this case the risk again and so
4 forth. Do I see threat? No. Do I see it
5 mentioned? No. Do I see it typed? No.

6 Q. Okay.

7 And is there any discussion of
8 the relationship between risk and threats in
9 this paragraph?

10 A. No.

11 Q. How about in the abstract? Was
12 there any discussion about the relationship
13 between risk and threats?

14 A. Again, no. Not directly.

15 Q. Okay.

16 It was just the use of the term
17 risk or discussion of the term risk in those
18 contexts?

19 A. Risk and also relation to
20 assets.

21 Q. And I'm sorry, that threw me off
22 a little bit. Assets, how does that relate
23 to risk?

24 A. Well, as we've mentioned before,
25 you know, threats are in relation to assets,

1 Hurlbut

2 so a threat against an asset, threat
3 against, you know, harming an asset,
4 stealing an asset, destroying an asset and
5 so forth, some kind of event that impacts an
6 asset is essentially what we described
7 earlier as a threat, and so the fact that
8 this talks about risks to these assets
9 indicates that there might be some sort of
10 threat as well that results in that possible
11 risk. In other words, risk is not by
12 itself. Risk is not, it's not mentioned by
13 itself, but it is in relation to assets.

14 Q. Okay.

15 In your declaration, again at
16 paragraph 79, this is the same sentence we
17 were looking at just a moment ago. You may
18 want to go back there just to refresh
19 yourself.

20 A. Sure.

21 Q. But --

22 A. And this is 3 --

23 Q. Exhibit 1003.

24 A. Yeah.

25 Q. And it's PDF page 43.

1 Hurlbut

2 A. Okay. I have to zoom back there
3 again. I don't know if there's a way to
4 keep it on the same page or not. There
5 doesn't seem to be.

6 Q. There doesn't seem to be.

7 So do you see that sentence
8 where you were just looking at? In fact,
9 it's the second sentence of paragraph 79.

10 A. I think I went too far. This
11 was -- which page did you say again?

12 Q. It should be --

13 A. 43?

14 Q. PDF 43.

15 A. Yeah. I went too far. Sorry.

16 Okay.

17 (Witness reviewing document.)

18 A. Okay. Now, it won't let me
19 scroll down. Great. I don't know why. Let
20 me try this. Okay. All right. So please
21 ask your question again.

22 Q. Sure. I was just trying to
23 direct you to where I'm looking. In the
24 second sentence of paragraph 79, it begins
25 with Keenan discloses.

1 Hurlbut

2 Do you see that?

3 A. Yes, I do. Yes.

4 Q. Okay. And I just wanted to
5 focus on the part about assets since you
6 mentioned assets just a moment ago.

7 A. Yes.

8 Q. You say, and feel free to put it
9 in context whatever you would like, but at
10 the end of that sentence it says assets
11 (i.e. sources of threats/threat model
12 components).

13 Do you see that?

14 A. I do; yes.

15 Q. Are you saying that source of
16 threats and threat model components are
17 assets?

18 MR. MIDDLETON: Objection.

19 Form.

20 A. That assets could be sources of
21 threats or threat model components; yes.
22 Not the other way around.

23 Q. Okay.

24 Are sources of threats and
25 threat model components the same thing?

1 Hurlbut

2 MR. MIDDLETON: Objection.

3 Form.

4 A. In terms of what we understand
5 from -- yes, I -- yes. Yeah.

6 Q. Okay.

7 A. Based on the definition we went
8 through earlier.

9 Q. Right. And I'm sorry, this may
10 be the objection, but I'm talking about in
11 the context of the '366 patent, again, from
12 the perspective of a person of skill in the
13 art in May of 2017. With those
14 qualifications, are you indicating that
15 sources of threats and threat model
16 components are the same?

17 MR. MIDDLETON: Objection.

18 Form.

19 A. In terms of '366 and how it's
20 defined or how it describes, yes, that's how
21 it relates the two.

22 Q. Okay.

23 And, again, just to understand
24 this sentence, what you're saying is assets
25 can be sources of threats or threat model

1 Hurlbut

2 components, but not the other way around;
3 right?

4 MR. MIDDLETON: Objection.

5 Form.

6 A. Well, not exclusively.

7 Q. Okay.

8 A. That's what I'm trying to say.

9 They're not exclusively, to say that sources
10 of threat model components are only asset.

11 Q. Okay.

12 They can be something other than
13 assets, and I think you gave us some
14 examples earlier today; correct?

15 A. Correct.

16 Q. Could be actions, for example?
17 Sources of threats could be actions?

18 A. Could be actions, could be if
19 you're thinking about -- yeah, the action,
20 the operation or the movement, for example,
21 movement of data, for example, could be a
22 source of threat.

23 Q. Okay.

24 A. Which is not related directly to
25 assets.

1 Hurlbut

2 Q. Okay. So down below, in the
3 same paragraph, paragraph 79, it looks like
4 two sentences down, you say a POSITA, person
5 of skill in the art, would understand that a
6 determination of threats is included within
7 a risk analysis.

8 Do you see that sentence?

9 A. Yes.

10 Q. How is it that a person of skill
11 in the art in May of 2017 could determine a
12 threat based on being provided information
13 about a risk?

14 MR. MIDDLETON: Objection.

15 Form.

16 A. Well, an example would be the
17 risk of -- the risk of a system not being
18 available. Let's just say that. What's the
19 threat? Well, the related threat can be a
20 denial-of-service attack, could be a system
21 that we depend on that's not available which
22 is then causing that risk. Both of those
23 are threats. And so if you set a risk, you
24 know, risk value, risk level 3, you can't
25 tell anything from that, but that's not

Hurlbut

rick, and even 366 indicates that's not risk, it's not the same, risk is defined, determined, talked about as something that could happen, probability, the likelihood, the impact, and then you work your way backwards to understand that there was a threat that can help us determine that level of risk or that risk itself.

Q. So, again, I'm trying -- if I -- in the context of threat modeling, again, in May of 2017, if I'm aware of a risk, am I correct you can -- you can derive from that -- I'm sorry. Did I say risk? I meant threat. If you're aware of a threat --

A. Mm-hmm.

Q. -- can you derive from that threat the risk associated with the threat?

MR. MIDDLETON: Objection.

Form.

A. With enough information, yes. I mean, the -- the threat helps us understand, you know, again, just the threat, we already talked about the risk, the likelihood and the impact, and so knowing what the threat

1 Hurlbut
2 is, evaluating what's the likelihood of this
3 and that's certainly possible, what's the
4 impact of this threat versus another threat,
5 that's certainly possible, then absolutely
6 you could determine the risk.

7 Q. Okay.

8 But if you are just given the
9 risk, can you derive the threat from that?

10 MR. MIDDLETON: Objection.
11 Form.

12 A. You have -- well, some possible
13 threats. Some possible threats. And I gave
14 an example already. The example I gave was
15 unavailability. I have a risk of
16 unavailability. But what's the threat?
17 Well, the threat could be several things.
18 It could be a denial-of-service attack, it
19 could be the thing I'm relying on is not
20 available to me. So, therefore, I have that
21 risk, and so I don't have exactly a one to
22 one, but I certainly have a pretty good idea
23 of what it could be, so I've narrowed down
24 my possibilities.

25 Q. So you mentioned one to one.

1 Hurlbut

2 What you're saying is there is not
3 necessarily a one to one relationship
4 between a risk and the underlying threat;
5 correct?

6 MR. MIDDLETON: Objection.

7 Form.

8 A. Let me think about that for a
9 moment.

10 Q. Sure.

11 A. Some of this is semantics going
12 back to the definition that a risk is a
13 result of the probability of that threat or
14 the likelihood of that threat, rather, and
15 the impact of that threat, and that's more
16 generic in terms of what is the threat that
17 leads to risk, and so the fact that there is
18 a risk or a known risk or a stated risk
19 indicates that there is a threat or maybe
20 even a plurality of threats that are
21 impacting that risk or causing that risk to
22 be determined or known.

23 Q. Okay.

24 MR. MIDDLETON: Don, we've been
25 going for over an hour. Are you

1 Hurlbut

2 thinking about taking a break soon?

3 MR. JACKSON: Sure. Let me just
4 wrap this part up.

5 Q. So I was really trying to go
6 back and unpack. You mentioned the phrase
7 one to one and I was trying to get at that
8 idea and make sure we understand what we're
9 saying or what you meant when you said that.
10 So if you have a risk, even if you know the
11 context of the risk or whatever, a banking
12 system or a computer system that you're
13 looking at --

14 A. Sure.

15 Q. -- there can be one or more
16 threats that gave rise to that risk;
17 correct?

18 MR. MIDDLETON: Objection.
19 Form.

20 A. Yes. Yes. I would say so.

21 Q. And if you just know -- even if
22 you know the context, banking system, for
23 example --

24 A. Mm-hmm.

25 Q. -- and you know the level of

1 Hurlbut

2 risk that you're looking at, that doesn't
3 necessarily tell you which potential threat
4 or threats gave rise to that risk; correct?

5 A. Well, again, we're
6 distinguishing --

7 MR. MIDDLETON: Objection.
8 Form.

9 A. We're distinguishing now between
10 you just said level of risk and that's not
11 the same as risk.

12 Q. Okay. I'll -- let me change the
13 question again.

14 If you're -- even if you know
15 the context that you're looking at, the
16 system you're looking at, and you're given a
17 particular risk, isn't it true you still
18 don't know which threat or threats gave rise
19 to that risk; is that correct?

20 MR. MIDDLETON: Objection.
21 Form.

22 A. You have -- I would say you have
23 a pretty good idea, but, again, it depends
24 on how you define -- or how you state the
25 risk of -- and it is all related to context.

1 Hurlbut

2 Q. All right.

3 So you need the context, for
4 example?

5 A. You do. Certainly, you do.

6 Q. And you would --

7 A. That helps.

8 Q. Right.

9 And you would need maybe other
10 information, for example; what's the
11 vulnerability that's related to the risk;
12 correct?

13 MR. MIDDLETON: Objection.
14 Form.

15 A. No. No.

16 Q. Okay.

17 What other information would you
18 need the to determine the threat that gave
19 rise to the risk?

20 A. Generally in threat modeling,
21 and this is -- yeah, so I'd say so for the
22 most part, yeah, we understand threats that
23 lead to certain types of risk or lead to a
24 certain kind of risk, and so -- and so I
25 would say understanding what the threats are

1 Hurlbut
2 to help you with risk, if you know what the
3 risks are, depending on how it's stated,
4 helps you understand the types of threats or
5 potential types of threats that could lead
6 to this type of risk as well. So they
7 are -- they are not the same, but they
8 certainly have a relationship between the
9 two.

10 Q. Okay. So I think Matt mentioned
11 maybe taking a short break.

12 A. Sure.

13 MR. JACKSON: Let's go ahead and
14 go off the record.

15 THE COURT REPORTER: We are off.

16 (Whereupon, a brief recess was
17 taken.)

18 CONTINUED BY MR. JACKSON:

19 Q. So before we took a break, you
20 mentioned something about there being a
21 difference between risk and risk level. Can
22 you explain that, please?

23 A. Yes. So the risk is, again,
24 likelihood and impact. Risk level is a
25 measure of that risk. And so it could be

Hurlbut

low risk, so the impact may be low, the likelihood may be low, may not happen whereas other risk levels can be high, could be medium. So high risk level would be very, very likely that it could happen, the likelihood increases, or the impact -- and usually both of those together, the impact could be severe. Medium is sort of in between, somewhere in between, and if you just did those three or a critical, but let's just say those three, low, medium or high. Medium is one of those where the likelihood could be high and the impact low or vice versa, and so that's where a medium is sort of subjective sometimes just to try to determine what is my medium, but low is considered to be, you know, pretty low for both and high is considered to be pretty high for both of the likelihood and the impact.

Q. Okay.

And those are risk levels; is that right?

A. Correct. Those are risk levels.

1 Hurlbut

2 Q. And, again, just to make it, to
3 eliminate any objection, that description
4 that you gave about risk level, would that
5 have been true in May of 2017?

6 A. Yes.

7 Q. All right.

8 A. Yes.

9 Q. And how does that differ from
10 risk, risk level? How does that differ from
11 risk in May of 2017?

12 MR. MIDDLETON: Objection.

13 Form.

14 A. That -- well, that difference
15 from -- difference from risk in that risk is
16 the description of the issue or the problem
17 or the possibility. When you're defining it
18 as the likelihood and the impact, then
19 that's what it is. The risk -- the risks
20 that I -- you know, in my earlier example,
21 the risk of services not being available,
22 that is just what it is, so what's the risk
23 level of that? Well, it's high. You know,
24 if -- we know that if that happens, then --
25 and certain things have happened as a

1 Hurlbut

2 result, and then we know that that will
3 cause us severe problems. And that risk
4 level can change as well. As I mentioned,
5 even the risk could be loss of availability.
6 If I'm in a -- on prem at my company and my
7 site is down or something is down, then I'm
8 out of business perhaps or my business is --
9 you know, people are not able to connect to
10 my business. If that risk is also described
11 where I have something on the Cloud where
12 it's also all about availability, just
13 making sure things are available, then my
14 risk level is fairly low because I have ways
15 to deal with it in the Cloud versus maybe in
16 my own company. So, again, it's the same
17 risk, but the risk level can vary.

18 Q. Okay.

19 Just to take your example of
20 risk, which I think one example is loss of
21 service; correct?

22 A. Sure. Yes.

23 Q. Okay.

24 So in that example, how does
25 loss of service differ from the impact of a

1 Hurlbut

2 threat?

3 MR. MIDDLETON: Objection.

4 Form.

5 A. Well, again, the likelihood and
6 the impact is what defines the risk --
7 right -- so impact is loss of -- the actual
8 loss of service itself. Are you asking is
9 it different than just saying loss of
10 service is the impact versus risk?

11 Q. Yes. It would seem to me that
12 loss of service is the impact as opposed to
13 being the risk which is derived from the
14 impact --

15 A. Okay.

16 Q. -- along with probability.

17 A. Okay. Fair enough. Fair enough.
18 So risk could be loss of service
19 that doesn't allow customers to connect with
20 us. That's our risk. So if I understand,
21 what you're asking is could risk be -- you
22 know, customer is not able to connect to us,
23 so how do I know why -- or were the
24 threats -- sorry, the impact loss of
25 service -- most of the time that I've seen,

1 Hurlbut

2 risk is still defining or talking about some
3 of the impact, the loss of service is the
4 risk, which is also the impact, but then the
5 level helps us understand how much of a --
6 how severe would that be if we didn't
7 have -- if we had loss of service. In some
8 cases, it may not be severe, in some cases
9 it may be more severe. So I think that's
10 where I'm -- yeah, that is where I'm going
11 with that as far as it could be similar or
12 same or used to describe the risk, which is
13 also the impact itself.

14 Q. Okay.

15 In the '366 patent, do you
16 recall how that patent describes risk versus
17 risk level, if at all?

18 MR. MIDDLETON: Objection.

19 Form.

20 A. Again, I think I said earlier on
21 I remember risk level, I don't remember --
22 because it was noted in a form, but I don't
23 remember at the moment the actual connection
24 between those two.

25 Q. Let me see if I can find the

1 Hurlbut

2 '366 patent.

3 A. Okay.

4 Q. Hopefully the '366 patent shows
5 up on your system about now.

6 A. I have it; yes.

7 Q. Okay.

8 And so if I understood what you
9 said, correct me if I'm wrong, you're saying
10 the '366 patent talks about risk level, but
11 not risk; is that right? Or do I have that
12 wrong?

13 MR. MIDDLETON: Objection.

14 Form.

15 A. What I'm saying is it mentions
16 risk level. I do not recall what exactly
17 was said about risk in the patent itself.
18 I'm not saying it doesn't. I'm just saying
19 I don't recall it. I remember it focused
20 more on risk level than risk itself.

21 Q. Okay.

22 Let me have you take a look at
23 Figure 8 of the '366 patent.

24 A. Okay.

25 Okay. Of course it's sideways,

1 Hurlbut

2 but okay.

3 Q. There may be a button at the top
4 where you can rotate it. On my end there
5 was.

6 A. Okay. I got it. Thank you.

7 Q. Okay.

8 And in Figure 8 here, there is
9 a -- sort of in the upper left-hand corner,
10 there's a label called Threats.

11 Do you see that?

12 A. Yes.

13 Q. And then under it, there's a row
14 labeled Name and then there's a -- or
15 there's a column labeled Name, there's a
16 column labeled Risk, there's a column with
17 the label called Labels.

18 A. Mm-hmm.

19 Q. Do you see that?

20 A. Yes.

21 Q. Okay.

22 And then under Name, in that
23 column, are those a listing of threats by
24 name?

25 A. Yes.

1 Hurlbut

2 Q. Okay.

3 And then in the column under
4 Risk, under the Risk label, what is that?
5 Is that risk or risk level or how would you
6 characterize that?

7 A. Risk level. And this is what I
8 was describing.

9 I know in the '366 patent it
10 points out instead of showing risk in this
11 particular diagram, in fact in this
12 particular figure, it states we're showing
13 risk level, not risk. So you can see very
14 high, very high, high and medium, and so on,
15 and of course over there in the middle risk
16 very high. These are risk levels, not risk.

17 Q. And you said that that
18 description was in fact in the specification
19 regarding this particular Figure 8?

20 A. Yes. In general, about what --
21 yeah, where risk level -- this is -- it's
22 using risk level.

23 Q. Okay.

24 Does the -- and I apologize if I
25 asked you this question, I know I asked you

1 Hurlbut

2 something similar -- does the '366 patent
3 describe the differences, if any, between
4 risk versus risk level?

5 A. And, again, that's -- I don't
6 recall that there was a distinct statement
7 that showed the difference between those
8 two.

9 MR. MIDDLETON: Sorry.

10 Objection. Form.

11 Q. In the Keenan reference, when it
12 talks about risk, is it referring to risk
13 level or risk?

14 MR. MIDDLETON: Objection.

15 Form.

16 A. As I understand it, risk and not
17 risk level.

18 Q. So as you understand it, Keenan
19 is talking about risk and not risk level;
20 correct?

21 A. It does talk about -- there is
22 another place it does talk about threat
23 vector and related to risk and it does
24 show -- there is another place that it does
25 show about level in relation to threat

1 Hurlbut

2 vectors and so forth that relate to risk as
3 well, but in the section we were looking at
4 before it doesn't.

5 Q. Okay, I'm sorry, because I'm a
6 little bit confused, so bear with me. Is
7 what you're saying is that the Keenan
8 reference describes both risk and risk
9 level?

10 MR. MIDDLETON: Objection.
11 Form.

12 A. I'd have to look again at the
13 specific, but I do remember a threat vector
14 in relation to risk which indicated some
15 level of -- some level of change.

16 Q. Do you have Keenan there
17 available to you? That was Exhibit 1004.

18 A. Sure. Let me pull that up.

19 Q. And once you've got it open, if
20 you want to go to PDF page 25, this may have
21 been what you're referring to.

22 A. Okay. Yes. Looks familiar.
23 Yes, I'm there.

24 Q. Okay. And in column 14 at
25 roughly line 61, it looks like there's a

1 Hurlbut

2 reference to technical threat vector.

3 Do you see that?

4 A. Yes.

5 Q. What is technical threat vector
6 referring to here in Keenan?

7 A. It indicates, you know, on the
8 value for the technical risk ranking
9 characteristic of that object, and so
10 technical risk ranking is actually
11 equivalent to a risk level.

12 Q. Okay.

13 So when it -- I don't know why
14 it uses this terminology, but when it uses
15 the term technical threat vector, that's
16 referring to a risk level?

17 A. Correct. Yes.

18 MR. MIDDLETON: Objection.

19 Form.

20 A. A risk ranking as he calls it,
21 but yes.

22 Q. Okay.

23 A. Ranking and level are
24 interchangeable in this case.

25 Q. Okay.

1 Hurlbut

2 And I think I saw one other
3 instance somewhere in Keenan where it
4 mentions threat vector -- oh, if you go to
5 the next page, in column 16, line -- it
6 looks like line 21 --

7 A. Okay. Yes.

8 Q. It looks like --

9 A. Yup.

10 Q. And do you see there it begins
11 Technical Threat Vector:?

12 A. Yes.

13 Q. And is that the -- it appears to
14 me to be the same, but is that the same
15 description as what we just looked at?

16 A. It's the same description; yes.

17 MR. MIDDLETON: Objection.
18 Form.

19 Q. So this description in column 16
20 is also referring to a risk level or a risk
21 ranking?

22 A. Yes.

23 MR. MIDDLETON: Objection.
24 Form.

25 A. Yes.

1 Hurlbut

2 Q. So if you have a particular
3 threat, will the risk associated with that
4 threat vary depending on it's environment?

5 MR. MIDDLETON: Objection.

6 Form.

7 Q. I can give you an example if
8 you'd like.

9 A. Yes, please.

10 Q. Okay.

11 So I was thinking of an
12 automated teller machine, an ATM.

13 A. Mm-hmm.

14 Q. And the threat to the ATM could
15 be described as theft.

16 Is that reasonable?

17 MR. MIDDLETON: Objection.

18 Form.

19 A. Could you -- sorry. Could you
20 repeat that one more time?

21 Q. Sure.

22 Is theft, theft from the ATM, is
23 theft a -- is that a type of threat to the
24 ATM?

25 MR. MIDDLETON: Objection.

1 Hurlbut

2 Form.

3 A. Yes.

4 Q. And would it be fair to say that
5 the risk associated with that threat varies
6 depending on things such as the location of
7 the ATM?

8 MR. MIDDLETON: Objection.

9 Form.

10 A. Possibly. If you're trying to
11 determine the risk, we've already defined it
12 as likelihood and impact, and so when you
13 say location, again, I think that's
14 indirect, so the likelihood, if location of
15 the ATM is out in the middle of the field,
16 then the likelihood may be higher, the
17 opportunity anyway. If the location of the
18 ATM is right there at a bank, at a local
19 branch, attached to the local branch itself,
20 then the likelihood may have reduced just
21 because, again, it may be tougher or more
22 difficult to do for the threat of theft.

23 Q. Okay.

24 So the same threat, which is
25 theft, as you just said --

1 Hurlbut

2 A. Yes.

3 Q. -- but the risk is different
4 depending on whether it's in the field or
5 whether it's located at the bank branch?

6 A. No.

7 MR. MIDDLETON: Objection.
8 Form.

9 A. No. No. The -- the risk is the
10 same, but the level of risk changes based
11 again on the likelihood and the impact.
12 Right? Or if -- let me rephrase. Actually
13 no, it's the same as what we said before.
14 The high impact, high likelihood increases
15 the level of risk, but the risk is the same.

16 Q. Okay.

17 In that example, can you state
18 what the risk is just so I understand what
19 you're thinking of?

20 A. Sure. The risk is as a result
21 of the threat, the risk is losing money --
22 having money stolen, let me put it that way.
23 That would be the risk, to have money
24 stolen.

25 Q. Okay.

1 Hurlbut

2 But isn't that just another way
3 of restating the threat of theft?

4 MR. MIDDLETON: Objection.
5 Form.

6 A. No. Because you just said
7 threat is theft. Theft can be anything.
8 Theft I can probably, you know, maybe steal,
9 I don't know, something off the ATM. You
10 can be a little bit more specific on the
11 threat, but the risk is also helping us hone
12 in on what the threat is about and what it
13 can do. Again, it's the likelihood and the
14 impact. What does this do? The threat is
15 again the money stolen that results in loss.

16 Q. Okay.

17 Let me have you go back to your
18 declaration. This is also I think in the
19 same paragraph 79 that we looked at earlier.

20 A. Okay.

21 Q. Let's say here --

22 A. I know there --

23 Q. I'll try --

24 A. -- was a -- go ahead.

25 Q. I was going to say I'll try to

1 Hurlbut

2 give you a page number. That paragraph
3 starts on PDF page 43.

4 A. Okay. I'm there.

5 It won't let me scroll again.

6 Okay. There we go. Okay.

7 Q. And actually it looks like the
8 part of that paragraph I'm going to ask you
9 about is on page -- PDF page 46.

10 A. Oh, okay. Okay.

11 Q. And this is toward the bottom of
12 this page. You mentioned something -- an
13 example from -- I think it's from Keenan, an
14 example from Keenan, called European
15 Windstorm Model.

16 Do you see that?

17 A. Yes. Yes.

18 Q. In your declaration here, you
19 characterize that as a threat model; is that
20 right?

21 A. Yes.

22 Q. And can you explain why you
23 characterize that as a threat model as
24 opposed to a risk model, for example?

25 MR. MIDDLETON: Objection.

1 Hurlbut

2 Form.

3 A. I would have to think about that
4 and look at again just to refresh.

5 Q. What would you have to look at?
6 Keenan? Is that what you're saying?

7 A. Yes.

8 Q. Okay.

9 Well, you can pull Keenan back
10 up. So basically I'm asking why you
11 characterized European Windstorm Model as a
12 threat model as opposed to some other type
13 of model. With that background, we can go
14 back to Keenan.

15 A. Right. And that was 14 --

16 Q. Let me find it here. That was
17 14:7-15:10.

18 A. Mm-hmm.

19 Q. I'm sorry, Mr. Hurlbut. That's
20 the wrong --

21 A. Yes?

22 Q. That's the wrong citation.

23 A. Okay. Yeah, I was looking and
24 it didn't look quite right.

25 Q. I misread your declaration. On

1 Hurlbut

2 your declaration you also say see column 9
3 and then you have the parenthetical about
4 the European Windstorm Model.

5 A. Okay.

6 Q. So I think the correct site is
7 column 9, line 42 to 47.

8 A. Okay. Oh, yes, okay.
9 (Witness reviewing document.)

10 A. Okay.

11 Q. So how does that passage
12 indicate to a person of skill in the art
13 that when it says model, it is referring to
14 a threat model?

15 MR. MIDDLETON: Objection.

16 Form.

17 A. Well, threat model contains a
18 couple of things, it contains threats, it
19 also contains mitigations, but another part
20 of a threat model is it contains information
21 about the system. We didn't really cover
22 this earlier, but the four-question
23 framework is typically what I have used,
24 it's part of the threat modeling manifesto
25 and some of Adam Shostack's work which talks

1 Hurlbut

2 about four parts of a threat model, what are
3 we working on, what could go wrong, what are
4 we going to do about it, and did we do a
5 good enough job, and so this is helping to
6 start a threat model, helping to understand
7 how the system works, what's happening, what
8 could happen, returning information. So
9 there are elements here of a start of a
10 threat model, but it doesn't include
11 threats, it doesn't include mitigations and
12 so forth, but in terms of helping us
13 understand how this particular system works
14 and what could then go wrong and so forth,
15 it's the start of one.

16 Q. Could this also be a risk model?

17 MR. MIDDLETON: Objection.

18 Form.

19 A. I'm just reading some of the
20 other context as well.

21 (Witness reviewing document.)

22 A. Yeah, I think it could be.

23 Q. Okay.

24 Could it also be some sort of a
25 pricing model that's being referred to?

1 Hurlbut

2 A. That I'm not --

3 MR. MIDDLETON: Objection.

4 Form.

5 A. Yeah, that I'm not certain on.

6 Q. Okay.

7 Are you familiar with Keenan at
8 least mentioning pricing models? In fact,
9 if you look at column 10, line 57, which is
10 on the same page I was just looking at, do
11 you see there it discusses or at least
12 mentions pricing models?

13 A. Yes. I see that.

14 Q. Okay.

15 So could this European Windstorm
16 Model refer to a pricing model of some sort?

17 MR. MIDDLETON: Objection.

18 Form.

19 A. It's not clear only because in
20 this particular context, it doesn't mention
21 pricing model, but over here it does, on the
22 right side, but it's not clear that
23 necessarily that's part of a pricing model.

24 Q. And if I could --

25 A. As far as I could tell.

1 Hurlbut

2 Q. Right.

3 And if I could direct you to
4 column 4, line 15.

5 A. Column 4, line 15?

6 Q. Yes. This is again in Keenan.

7 A. Sure. Okay.

8 Q. At roughly lines 15-17, do you
9 see there a discussion about model risk?

10 A. Yes.

11 Q. First of all, do you know what
12 CCAR stands for in the context of Keenan?

13 MR. MIDDLETON: Objection.

14 Form.

15 A. I do not.

16 Q. Okay.

17 Does Keenan disclose -- or
18 describe risk models?

19 MR. MIDDLETON: Objection.

20 Form.

21 A. Yes. Certainly in the abstract
22 or some of the descriptions, it does.

23 Q. Okay.

24 And do some of the figures show
25 risk models as well?

1 Hurlbut

2 MR. MIDDLETON: Objection.

3 Form.

4 A. I'd have to review again.

5 Q. Let me -- if you can, take a
6 look at Figure 7. We'll see if that's
7 helpful.

8 A. Okay.

9 Okay, I'm there.

10 Q. Okay.

11 And does Figure 7 show a risk
12 model?

13 MR. MIDDLETON: Objection.

14 Form.

15 A. It mentions model risk, it
16 mentions technical risk measurement, but I
17 don't -- I don't see that this is a -- it
18 says model risk, but doesn't say risk model.

19 Q. But apart from the specific
20 labels that are used --

21 A. Mm-hmm.

22 Q. -- when looking at this figure
23 from Keenan, would a person of skill in the
24 art understand this to be disclosing, I know
25 that there are multiple views, but at least

1 Hurlbut

2 one view of the risk model?

3 MR. MIDDLETON: Objection.

4 Form.

5 A. Yeah, I would say so.

6 Q. And also if we go back to the
7 text of Keenan and particularly in column
8 14, which I think we were just looking at a
9 little bit ago.

10 A. Okay. Okay.

11 Q. And in Table 3, do you see that
12 at roughly line 13?

13 A. Yes.

14 Q. And on the left-hand side at the
15 top, it says View Name.

16 Do you see that?

17 A. Yes, I do.

18 Q. Are the descriptors that are
19 down below that, are those different types
20 of views available to observe a risk model?

21 MR. MIDDLETON: Objection.

22 Form.

23 A. Yes, it looks like it.

24 Q. And actually that table looks
25 like it goes on over to --

1 Hurlbut

2 A. The next page.

3 Q. -- the next page, column 15.

4 There's another view name that's listed
5 there as well.

6 A. Yes.

7 Q. I just want to make sure you saw
8 that.

9 A. I see it.

10 Q. Okay.

11 And that doesn't change your
12 answer, that additional text; correct?

13 A. Correct; yes.

14 Q. Okay.

15 Let me ask about one of the
16 other terms we talked about earlier today,
17 mapping files.

18 A. Mm-hmm.

19 Q. And just to reorient you in your
20 declaration, it looks like this comes up in
21 your declaration at paragraphs 84 to 86, and
22 let me see if I can give you a page --

23 A. Okay.

24 Q. -- for that.

25 A. Okay.

1 Hurlbut

2 Q. It looks like it begins on PDF
3 page 53.

4 A. Okay. I'm there.

5 Q. And just for context, the
6 elements you're talking about in these
7 paragraphs is what you've labeled Element 1C;
8 correct?

9 A. Which -- I'm sorry. Which
10 number are you looking at? 84?

11 Q. Yes. I was starting with 84.
12 Yes. I think that whole section is 84, 85
13 and 86.

14 A. Correct. Yes.

15 Q. So element 1C, element 1C is,
16 "providing one or more mapping files
17 communicatively coupled with the one or more
18 databases"; correct?

19 A. I'm sorry. I'm -- oh, I'm
20 sorry. I see it again. I see it now
21 rather. Okay. Yes. Yes.

22 Q. Okay.

23 And over in paragraph 86, which
24 is two pages in -- I'm sorry, one page in
25 from where we were --

1 Hurlbut

2 A. Mm-hmm.

3 Q. -- the third line from the
4 bottom, you say, and, you know, read as much
5 of this as you'd like for context, but you
6 say, views, i.e. maps.

7 Do you see that?

8 A. Yes. Yes.

9 Q. Is that to say that in the
10 context of Keenan that views are maps?

11 MR. MIDDLETON: Objection.
12 Form.

13 A. No. Views are representing
14 mapping into -- in fact, I think it's back
15 on 80 -- if we can go back to 84, it says
16 map is preset that maps Visio shapes and
17 formats to IOE shapes and formats, and so
18 there is a mapping -- a map into that view,
19 but the view itself is not the map that
20 we're referring to in terms of a mapping
21 file or the mapping representation. So
22 going back over to 80 -- 86, I think; yeah.

23 Q. Okay. I'm just trying to
24 understand -- I wasn't necessarily asking
25 about mapping file, but if it -- obviously

1 Hurlbut
2 if it relates to your answer, you know,
3 please -- please provide that information,
4 but I was really trying to understand if
5 again going back to this reference of views,
6 i.e., maps, how -- here in the context of
7 Keenan how those two terms relate to one
8 another.

9 MR. MIDDLETON: Objection.

10 Form.

11 Q. Is the view -- well, let me just
12 ask you if you can explain how those two
13 relate.

14 A. Mm-hmm.

15 MR. MIDDLETON: Objection.

16 Form.

17 A. Yeah, I mean there's a couple of
18 sentences above it, just for context, Keenan
19 discloses software that converts the graph
20 database and associated characteristics into
21 Views. And then the assets and associated
22 characteristics, are turned into Views,
23 i.e., maps, by the mapping file. This is --
24 and I think this is actually probably
25 better, yeah, over on -- back on 84, the use

1 Hurlbut

2 of map versus maps, so a map is -- it is
3 preset that maps -- and so then --

4 Q. Can you tell me roughly where --
5 I can't -- I didn't say that on this page.
6 Can you tell me where you're looking
7 roughly?

8 A. I'm sorry. 84. In my opinion,
9 Keenan discloses this element. Keenan
10 teaches that a map is preset that maps Visio
11 shapes and formats to IOE shapes and
12 formats.

13 Q. I see that.

14 A. Yes.

15 Q. Thank you.

16 A. Yeah, no problem.

17 And then further down, so
18 there's just a number of things that Keenan
19 talks about in terms of mapping, and then
20 once you have that map or once you have that
21 relationship essentially, you have -- let's
22 see -- further down, Keenan further
23 discloses a GUI with a variety of views
24 including a pallet view that shows model
25 risk and so forth. So there's -- there's I

1 Hurlbut
2 guess multiple concepts of map. You know,
3 there's a map that actually does, as we said
4 earlier, the mapping of or correlating data
5 from a source into a target and then there
6 is also a map of -- okay. Now this is where
7 these things place -- are placing on the
8 visual screen or this particular view and so
9 on.

10 Q. Okay.

11 And so the appearance on the
12 visual screen, that's what you're referring
13 to in paragraph 86 when you talk about
14 Views?

15 A. Correct.

16 Q. i.e. --

17 A. Yes.

18 Q. i.e., maps. Sorry?

19 A. Yes. Correct.

20 Q. Okay.

21 A. But in order to get there, there
22 is a mapping, there is a relationship, a
23 correlation in order to get from the data
24 that's coming in to see the end result.

25 Q. Up above on paragraph 85. I

1 Hurlbut

2 will let you get there.

3 A. Okay. I'm there.

4 Q. Okay.

5 In the last sentence of that
6 paragraph, you say, in other words, Keenan's
7 "map" conveys and necessarily includes a
8 "mapping file" as claimed because a mapping
9 file would be required to perform mapping
10 techniques.

11 A. Yes.

12 Q. Do you see that?

13 A. Right. Yes.

14 Q. Okay.

15 What do you mean by necessarily
16 includes?

17 A. Necessarily includes, and,
18 again, my definition earlier of a mapping
19 file is a concept that helps us understand
20 how we correlate data from a source to a
21 target, and so there is some kind of
22 mapping, there is some kind of correlation
23 from data that's obtained, imported and so
24 forth into, you know, what we see, so that's
25 essentially what we're talking about, that

1 Hurlbut

2 there is implied some kind of mapping file
3 or some kind of representation of that
4 mapping or data correlation.

5 Q. Keenan -- am I right Keenan
6 doesn't tell us how that correlation occurs?

7 MR. MIDDLETON: Objection.
8 Form.

9 A. That's correct. That is
10 correct.

11 Q. And that's why, you're saying,
12 well, it's -- your phrase here was
13 necessarily includes, but it had to have
14 done it, in other words, or it had to have
15 that mapping.

16 A. It had to have happened of some
17 sort simply because, again, back to 84, a
18 map is a preset that maps Visio shapes, so
19 that map is a preset, that represents that
20 there is something or understood that there
21 is something that helps the data
22 correlation, and that's what we referred to
23 or necessarily, as it says, necessarily
24 includes a mapping file.

25 Q. And my memory is in your

1 Hurlbut

2 declaration you don't construe mapping file.

3 Am I correct or not?

4 MR. MIDDLETON: Objection.

5 Form.

6 A. That I don't define it or --

7 Q. Yes. Define it or construe

8 it --

9 A. No.

10 Q. -- in some fashion.

11 A. No. No.

12 Q. Okay.

13 I think you said earlier that

14 the '366 patent says that the mapping file

15 doesn't have to be a file per se --

16 A. Yeah.

17 Q. -- is that right?

18 A. Correct. I can show you that.

19 Q. Okay. Would you, please.

20 A. Sure. So in -- which one is it?

21 004 -- 1004?

22 Q. '366 patent is Exhibit 1001.

23 A. Oh, yes. Of course. Okay. I

24 believe, if I remember correctly, 35 or 38,

25 but let me just double check.

1 Hurlbut

2 Sometimes this is finicky. If I
3 expand it, I can sometimes scroll to it and
4 sometimes I can't.

5 Okay. So yes, on page 51 of the
6 PDF page and 38, column 38, and lines 33
7 through about 42 where it says -- I can read
8 it -- file formats other than CSV files
9 could be used for the mapping files. In
10 implementations, one or more tables in the
11 database could include the same information
12 and could be used for mapping. In the
13 implementation in which separate files, not
14 in the database, are used, they can be
15 stored on the one or more computing devices
16 that comprise the system including user
17 computers, servers and so forth. In
18 implementations in which one or more tables
19 of the database are used for the mapping
20 files, each table is, for the purpose of
21 this disclosure, a file. And this is closer
22 to the standard a person skilled in the art
23 would understand anyway. In terms of, as I
24 mentioned very early on, a mapping file does
25 not necessarily mean a file, but a

1 Hurlbut
2 representation, and that could be based on
3 context, based on choice really of the
4 developer, of the person putting the
5 software together, how they want to store
6 that mapping or use that mapping in some
7 way, that representation in some way.

8 Q. Do you remember whether the '366
9 patent has any other passages that relate to
10 whether the mapping file has to be a
11 stand-alone file or not?

12 A. No. This is one I do remember,
13 but I don't -- I don't remember --

14 Q. Okay.

15 A. -- any others.

16 Q. Okay.

17 Other than using a mapping file
18 as you've described and pointed to in the
19 '366 patent in that passage we've just
20 looked at, is there any other way of
21 correlating Visio components to components
22 in the IOE of Keenan other than using some
23 sort of a mapping file?

24 MR. MIDDLETON: Objection.

25 Form.

1 Hurlbut

2 A. Well, again, mapping file we've
3 said already is the -- is a representation.
4 Right? It's a way of correlating data. So
5 are you asking, are there other ways to
6 correlate data that are still mapping
7 files or --

8 Q. Yes; in the context of Keenan.

9 A. As I recall, it's -- it is that,
10 you know, that -- it mentions there's a map,
11 a preset, but it doesn't say exactly how
12 it's stored or where it would be stored. If
13 I -- does that answer your question?

14 Q. I think it does. I'm just
15 trying to figure out a different way of
16 asking about that issue.

17 So in essence, because it --
18 because Keenan discloses there's a map and
19 there's some sort of conversion between what
20 it describes as certain embodiments being
21 some sort of a Visio file, I guess it is,
22 yeah, Visio file --

23 A. Mm-hmm.

24 Q. -- and it's converting it to
25 what it calls IOE objects, because there's

1 Hurlbut
2 that conversion, you're saying it's
3 necessarily true that there's some sort of,
4 quote, mapping file that's present in
5 Keenan?

6 MR. MIDDLETON: Objection.
7 Form.

8 A. Correct.

9 Q. Okay.

10 Let me ask you again about a
11 statement in your declaration. This is in
12 paragraph 88, which is I think in the next
13 section over. This should be on PDF page 57
14 of your declaration.

15 A. Okay.

16 Okay.

17 Q. I'm trying to catch up. Hang on
18 a second.

19 A. It won't scroll down now again.
20 Let me see if -- okay. There we go. Okay.

21 Q. And then specifically the
22 statement I wanted to ask you about was
23 on -- at the end of that paragraph which
24 actually appears on PDF page 58 at the top.

25 A. Okay.

1 Hurlbut

2 Q. And in that last sentence, you
3 say -- you refer to the elements of Visio
4 and Keenan's system.

5 Do you see that?

6 A. Yes.

7 Q. And my question is: What are
8 the elements of Keenan's system that you're
9 referring to there?

10 MR. MIDDLETON: Objection.

11 Form.

12 A. The IOEs essentially.

13 Q. Are the elements the objects in
14 the IOE?

15 MR. MIDDLETON: Objection.

16 Form.

17 A. I would have to look back at 18.
18 It looks like 18:36-40 to say for certain.

19 Q. Let's take the time to do that,
20 please. And that was 18 --

21 A. 36 to 40.

22 Q. 18:36-40. That's right. Okay.

23 A. Okay. Yes.

24 A map -- same section or same
25 thing we've talked about. A map is preset

1 Hurlbut
2 that maps Visio shapes and formats to IOE
3 shapes and formats. The user selects the
4 import function in the IOE GUI, which first
5 checks to see if object already exists in
6 IOE based on external ID number first, then
7 name match. If the object already exists,
8 a message is posted to the screen such as
9 the following objects matched existing
10 objects from the IOE, new relationships will
11 be loaded to existing object, and then
12 existing objects are then updated with new
13 relationships based on the imported Visio
14 diagram.

15 Any more on that one?

16 Q. Yes. So my question was just,
17 when you say the elements of Keenan's system
18 in your declaration, I just wanted to make
19 sure, you know, we understood what you were
20 talking about.

21 A. Yes.

22 Q. You're talking about the objects
23 of Keenan or the IOE shapes and formats,
24 what are you specifically --

25 A. Yes, the --

1 Hurlbut

2 MR. MIDDLETON: Objection.

3 Form.

4 A. The IOE shapes and formats which
5 are objects; yes.

6 Q. Okay. That was -- okay. Thanks
7 for clarifying that.

8 Down below, in fact, in the
9 section you read, it refers to -- let me
10 find it here -- the existing objects -- this
11 looks like it's at line 43 -- it says the
12 existing objects are then updated with new
13 relationships based on the imported Visio
14 diagram.

15 Do you see that?

16 A. Yes.

17 Q. What are the relationships that
18 are being referred to here in Keenan?

19 MR. MIDDLETON: Objection.

20 Form.

21 A. Well, I mean, it doesn't give
22 the exact explanation, but the context seems
23 to be -- so existing objects are then
24 updated, so these objects already existed,
25 and then if there is anything new within

Hurlbut

that Visio diagram, you know, it could be new elements. I mean, I'm familiar with Visio. There could be new stencils, there could be new arrows, new stencils, new -- all kinds of things in that diagram, then what it indicates is, from my understanding of the reading here, is that the existing object which has already been created as a result of that mapping -- original mapping is that now any potentially new relationships are formed or created because of updates to that Visio diagram, previous diagram that was already imported and now has been imported again and it will create new relationships or new mappings.

Q. So this may not be the right word, but like new connections between existing objects in the new Visio file?

A. It could be connections --

Q. Is that right?

A. Yes. Sure. It could be new connections, it could be new objects -- or new visual, we call them stencils in Visio, but essentially if I have an image, a

1 Hurlbut

2 triangle, let's say, or a square, and I've
3 had four, now I have five, and maybe I also
4 now have an arrow between two squares or a
5 triangle to a square or something like that,
6 so those -- each of those new elements of
7 that diagram would then necessitate a new
8 relationship created and updated in the
9 object.

10 Q. Okay.

11 And then specifically in this
12 instance, this is referring to the existing
13 objects; right?

14 A. That's how I understand it.

15 Q. Not new objects?

16 A. Yeah, that's how I understand
17 it. Preceding that, it says, you know, a
18 couple -- a sentence before, it's
19 determining, well, the object is already --
20 already exists. Right? So we've already at
21 one point or another imported this video
22 diagram that had a particular ID, we matched
23 the ID and now we need to update our object
24 based on the fact that there are some new --
25 new elements, new stencils, whatever we want

1 Hurlbut
2 to call them, and the Visio diagrams, and we
3 want to make sure those new relationships,
4 new stencils or new relationships are also
5 reflected in the existing object.

6 Q. So for the existing objects,
7 this would include any new interconnections,
8 my word?

9 A. Yes. Correct.

10 MR. MIDDLETON: Objection.
11 Form.

12 Q. Okay.

13 A. Yes.

14 Q. Well, those are all the
15 questions I had, Mr. Hurlbut.

16 A. Okay.

17 Q. So I appreciate your time today.

18 MR. JACKSON: I don't know,
19 Matt, do you have follow-up questions
20 or no?

21 MR. MIDDLETON: Can we take a
22 five-minute break --

23 MR. JACKSON: Sure.

24 MR. MIDDLETON: -- and then I'll
25 come back and let you know?

1 Hurlbut

2 MR. JACKSON: Okay. Go off the
3 record.

4 MR. MIDDLETON: So let's come
5 back at 12 -- could you -- yeah, let's
6 come back at 12:30.

7 THE WITNESS: Okay. 12:30.

8 MR. JACKSON: Just to clarify,
9 you're not intending to talk to
10 Mr. Hurlbut, are you?

11 MR. MIDDLETON: No. No. No.
12 I'm not going to speak to Mr. Hurlbut.

13 MR. JACKSON: Okay. Thank you.

14 THE WITNESS: Thank you.

15 (Whereupon, a brief recess was
16 taken.)

17 MR. MIDDLETON: No redirect.

18 THE COURT REPORTER: Okay. We
19 are off the record.

20 (Time noted: 12:29 p.m.)

21

22

23

24

25

A C K N O W L E D G E M E N T

I, ROBERT HURLBUT, hereby
certify that I have read the transcript
of my testimony taken under oath in my
deposition of December 18, 2023; that
the transcript is a true, complete and
correct record of what was asked,
answered and said during this
deposition, and that the answers on the
record as given by me are true and
correct.

ROBERT HURLBUT

Subscribed and sworn to
before me this ____ day
of _____, 2023.

NOTARY PUBLIC

I N D E X

WITNESS	EXAMINATION BY	PAGE
Robert Hurlbut	Mr. Jackson	6

EXHIBITS	DESCRIPTION	PAGE
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IriusRisk Exhibit 1001	Patent No. 10,713,366	7
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IriusRisk Exhibit 1003	Declaration of Robert Hurlbut	9
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Robert Hurlbut Exhibit 2003	CIO article entitled Risk = Likelihood x Impact	31
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Robert Hurlbut Exhibit 2004	Draft NIST Special Publication 800-154	33
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Robert Hurlbut Exhibit 2005	Excerpt from book entitled Measuring and Managing Information Risk, A FAIR Approach	40
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Robert Hurlbut Exhibit 1004	Patent No. 11,200,228	45
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C E R T I F I C A T E

STATE OF NEW YORK)
) ss.:
COUNTY OF NASSAU)

I, ROBIN LaFEMINA, a Registered
Professional Reporter, Certified LiveNote
Reporter and Notary Public, do hereby
certify:

That ROBERT HURLBUT, the
witness whose deposition is hereinbefore set
forth, was duly sworn by me and that such
deposition is a true record of the testimony
given by such witness.

I further certify that I am not
related to any of the parties to this action
by blood or marriage; and that I am in no
way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have
hereunto set my hand this day of ,
2023.

ROBIN LaFEMINA

3
DATE: December 18, 2023 JOB NO.: 8409

21 _____

Robert Hurlbut

22

Subscribed and sworn to before me

23 this day of , 20 .

24

25 _____ Notary Public

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