

Blockchain Working Group Meeting Minutes
May 22, 2020 10AM to 4PM

1) Guidelines and Instructions for Remote Participation

Chair Camille Crittenden calls the meeting to order at 10:04AM PST.

2) Roll Call

Assemblymember Ian Calderon - Voleck or Michael Magee: Present
Senator Robert Hertzberg – Freddie, Cynthia or Charles: Cynthia and Charles present
Ben Bartlett: Present
Brian Behlendorf: Present
Benjamin Bonte: Present
Audrey Chaing: Present
Liz Chien: Present
Radhika Iyengar-Emens: Present
Meredith Lee: Present
Anne Neville-Bonilla: Present
Arshad Noor: Present
Ted Ryan: Present
Jason Albert: Present
Sheila Warren: Present
Amy Tong: Not present
Sergio Gutierrez: Present
Michele Neitz: Present
David Tennenhouse: Present

3) Approval of the April Meeting Minutes

- Meredith: I sent an edit to Gabby. Small clarification of what I said and the name of the Water Act.
- Camille: Motion to approve minutes as amended?
 - Jason: Yes
 - Radhika: Seconded
 - Approvals: Ted Ryan, Jason Albert, David Tennenhouse, Michele Neitz, Brian Behlendorf, Cynthia C., Sheila Warren, Arshad Noor, Michael Magee, Meredith Lee, Benjamin Bonte, Audrey Chaing, Anne Neville-Bonilla, Liz Chien, Radhika Iyengar-Emens, Ben Bartlett

April meeting minutes are approved

4) Agenda and Meeting Guidelines

Facilitator Orit Kalman goes over the agenda and meeting guidelines, and the decision-making gradient of agreement

5) Regulatory Subcommittee Report

Liz Chien gives an overview of the Regulatory Subcommittee Meeting on April 22nd:

- Spent time discussing how COVID-19 will affect the prioritization of our blockchain recommendations
- Liz presented a framework of regulatory taxonomy, and what's been proposed at the federal level, along with the UK and Swiss regimes
 - Several comments on feedback on which direction California would like to go in. The underlying policy drivers in each regime are different. Wyoming is more business-friendly, and the NY regime less so.
- Michael Magee: I summarized a report on best recommendations for government to work with stakeholders and government advocacy groups. We emphasized open lines of dialogue with these issues. The biggest hurdle we face in the legislature with regulating blockchain is a lack of understanding of the technology, how it works, and the implications. We should provide a baseline level of education. I also discussed the multi-stakeholder governance framework. Looking to set up a similar multi-stakeholder governance framework for blockchain as is the case with the internet.
- Cynthia: Our section talked about what changes the agency should focus on in terms of regulations and laws we could change. This is quite an endeavor given the broad use cases of blockchain. We thought about ramifications and legal issues we could highlight, steps for state government, etc.
- Cynthia: We also talked a lot about the idea of incremental change. It takes incremental change in the legislature to get things done. [Assemblymember Calderon] cautioned against outlining too strong of recommendations.
- Ian Caldaron: It's important that we be clear in picking lanes. When it comes to AB2150, we picked a lane to exempt certain digital assets from being looked at as securities. We picked a lane based on what we thought the SEC was going to do. Ultimately, we believe AB2150 is an important step to move forward. If we make this decision, it could decide where other governments decide to go.

Michael Magee on AB2150:

- AB2150 provides clarity on how cryptocurrency should be regarded by regulators. There's lots of ambiguity on this front. This bill has passed the Finance subcommittee. We're going back and fleshing out technical definitions in the bill, which takes some time.
- Liz: The bill is a huge step forward in providing clarity to further product and business models.

BWG comments:

- Anne Neville-Bonilla: I liked the example of the innovation zone. We're looking at the concept of a "safe harbor" for natural resources & blockchain. As we get to

that, thinking about whether we incorporate the regulatory structure for natural resources into the larger regulatory subcommittee, or if we want to split by subject.

- David T.--There were references to particular locations for the zones, and if we're going to reference that, we should expand the list of locations or not reference any. I don't have the text in front of me, so I can't point to it, but just wanted to state that.

Public comment:

- Aleks V.: May we discuss InterAgency collaboration to the roadmap?
gbaglobal.org
- Jim: Is AB2150 similar to regulatory guidance in Delaware and Wyoming?
 - Michael M--I would say yes, it's similar to at least Wyoming's guidance. I'm not familiar with Delaware. The intent where digital assets and cryptocurrencies fall is similar to what Wyoming decided.
- Cheung T--Is there any discussion on digital currencies to be used in payments?
 - Liz: The discussion we've had on the taxonomy and regulatory framework is about the taxonomy of the digital currency. Is it akin to an exchange token or a utility token?

6) Considerations for Appropriate Applications--Decision-Making Process

Sheila explains her draft decision-making diagram:

- Sheila: We agreed before that this type of framework is helpful, and that we can use this to stress-test the use cases and recommendations we made. We haven't decided to what extent political considerations should flow into this decision tree. I didn't capture the political considerations in this tree. I would like to discuss with the BWG whether other considerations should be included?

BWG comments:

- Jason Albert: This decision tree looks great. My question relates to item H--do the parties mistrust each other or have misaligned incentives? Should we broaden that to "do the parties not have a pre-existing relationship?" When thinking about sharing education credentials, for example, the situation is more that there's no pre-existing relationship, not that they don't trust each other.
 - Sheila: That's a good point.
 - *Multiple working group members agree with this comment*
- Radhika: I have a question on B of "Can a permanent record be created?" Is there a situation where we wouldn't want permanent records to be created? That's more of a philosophical question.
 - Sheila: I suppose we can say, "Can and should a permanent record be created?" Perhaps another way to frame it is: "Is there value in a permanent record being created, or do we just not care?" That's probably preferable.

- Anne Neville-Bonilla: Following up on Jason’s point on H. I liked the current framing of point H because it fits with the current blockchain definition. We should probably talk about H in relation to the definition or should it be separate from the definition. Right now, our definition says we use blockchain when there’s a potential trust issue.
 - Sheila: I’d be curious to hear from Brian and David about that. I did pull from the definition. I see Jason’s point too though. Adding an option of “no pre-existing relationship” seems good.
- Brian: I just would want to make sure this wouldn’t be a tree for procurement. This seems like a good tree for policy decisions though.
 - Sheila: Agreed, it’s a prioritization exercise, not a final decision-making tree. It’s helpful for figuring out what use cases are a priority. I agree that this is not the end but rather the beginning.
- David: I’ll start with H, and I have comments with D and C. Some of the issue is that we’ve made it so linear. There might be multiple paths to get to the green box--maybe it shouldn’t be just at the end. In terms of part H, the mistrust, what we actually have been finding is that these parties trust each other a great deal. In the state’s case, you can imagine cities working with the state, and a blockchain connecting cities to the state. They probably do trust each other on an organizational-level. They would be hesitant to say that they don’t trust each other. If you look at the definition, it could be phrased as “do you see benefit to *increasing trust in the system* as opposed to *trust amongst the parties*.”
- David: On part G, we’re finding that shared write access is not the goal. Parties are going to get started with restricted write access, and a lot of what you’re trying to achieve is a much wider range of people able to read with a goal of expansion. I don’t know how to access that given the linear way this flows. Good news is that H and G don’t flow into the red; I hate that the early adopters end up in the “yellow” even though they’re the ones racing forward.
- Radhika: I actually agree with David in the linear format. It’s worrisome to me. Also, I’m worried about subjective terms. In D for example, “acceptable” is a very subjective word. On the question of intermediaries too. If you’re talking about peer-to-peer systems, it’s not about an intermediary but rather more of an ecosystem. We might be limiting ourselves too much when this is linear.
 - Sheila: I agree that some of the wording is subjective, and I think that’s a good point. “Acceptable” will vary widely for the use cases. It’s meant to be an initial framing point intended to kick out bad use cases. I appreciate the comments on H. Some of this nuance can lie too in the associated document.
- Sheila: I think we need to resolve the threshold question. We have gone back and forth on the usefulness of this matrix/tree. I’m happy to go back to that conversation, but I had thought that we agreed this would be useful for the time being. In my view, everything should go into the yellow box.
- Orit: It seems like there are a couple of different questions that need to be clarified by the working group. One has to do with the format and the other has to do with content.

- Anne: I like Jason’s framing of systemic trust.
- Arshad: I like the idea of a framework that forces technologists to think about issues when using a particular kind of technology for the solution. One of the most important questions they should be forced to answer is--what are the alternatives? Are there alternatives that are faster, cheaper, and better to blockchain? In my experience, I’ve found that there are ways to solve problems without using the latest and greatest technology. For the State of California, that’s probably one of the most important questions they have to answer. What are the alternatives and why are they not appropriate?
- Audrey: Some potential suggestions--instead of having a “green box,” and a matrix seems hard, what if we stayed with a binary and everything went to a “yellow”?
 - Sheila: I like everything going to yellow.
- Sheila: I agree there needs to be more on this page that says “please read the associated document.”
- Sheila: I’d be curious to get folks’ thoughts on the red box, that there are alternatives that can accomplish this just as well.
 - Radhika: I like moving D further below. *[David also agrees with this].* I would also perhaps move H to the top.
- Ian Calderon: I worry about creating something that is too prescriptive. From a public policy standpoint, that might stifle innovation.
- Meredith Lee: I advocate for us to work through this. I think this is going to be one of the most important and cited things in the report. Maybe we get rid of A through H and we have various “on ramps.”
- Sheila: Seems like the major takeaways are: (1) have a red and yellow; (2) have a disclaimer on this graphic so we are not being more prescriptive; and (3) thinking through the linear vs. matrix question.
- Sheila: How should we think about the timeline for this though? Should it be a separate subgroup?
 - Camille: I agree that this will be a major takeaway on this report. Let’s figure out how to best do this in the time given.

7) Review Blockchain Working Group Draft Report--Recommendations

Camille reviews the original purpose and scope of work of the BWG

Blockchain and its Defining Characteristics--Brian and David

- *Brian gives an overview of the latest definition*
- *BWG comments:*
 - Michael M.: I think it’d be useful from a policy perspective of saying “what is blockchain” and “what is not”.
 - Brain: I’m happy to include “must include” where possible.
 - Meredith: We should think of the scenario where someone reads this and says “this isn’t true for us.” I don’t think assigning intent, for example, should be in there. Also, we should compare the “state government

- section” where we say--”for the purposes of this section, blockchain is x” and make sure we’re consistent.
- Brian: We did talk in the last meeting whether we should express intent or not. My recollection is to not just have a mathematical description of a blockchain, but also why you should use it.
 - Ben Bartlett: We may get in trouble with critics later for phrasings like “Blockchain technology is the most widely recognized approach”...”this has positive implications”, etc. I think we should be more straight and to the point. My experience in small legislation in Berkeley, it's more helpful to have a bolded, two-line sentence that sums it all up.
 - Brain: I am also happy to take out the third paragraph if we want to make it shorter.
 - Radhika: I have a list of the “drivers” of blockchain technology that might help with the revisions.
 - David: I want to ask about the third paragraph. It’d be useful to get some sense--are they willing to move that out of the definition and place it in the surrounding text? I’m comfortable with that.
 - Meredith: I like the third paragraph. If we think about it being outside the definition and you just have four sentences of definition, I’d love to discuss the “intent” question I’d brought up.
 - Ben: I’m fine with the third paragraph, but we should have a two-liner.
 - Michael: I advocate for the third paragraph not being part of the definition, and just part of the background.
 - Ben: I want to strongly advocate for a topic sentence that’s two sentences or 1.5 lines, and the rest flows out of this.
 - Michael: From a legislative standpoint, I’d be useful to have a “what are the must-haves for blockchain.” I agree with separating the blockchain definition (two-liner) from intent and value-add language.
 - Arshad: If the focus is to help the legislature understand blockchain, then I think this needs to be simplified a lot more. For technologists, this is a fine definition.
 - Orit: Let’s do a poll of: (1) including the three and highlighting the definition in the middle paragraph; (2) taking the third paragraph out.
 - Option 1: Keep all 3 paragraphs. Highlight the 2nd paragraph as the definition while the 1st and 3rd paragraph remain to provide context and intent.
 - Option 2: Move the line about intent in the 1st paragraph and the 3rd paragraph to the narrative which accompanies the definition

11 members supported Option 2, 1 member selected Option 1 and 2 members had no preference.

Cynthia’s comment on the definition: Doesn’t cut to the core of the definition which is what the Legislature is really looking for (includes definition from MIT in the zoom chat).

MIT definition is not too prescriptive and cuts into the core of the definition in a quick way. This would be helpful, agreement with Michael Magee – using a definition similar to MIT proposed would be useful for the legislature.

Michael's comment on the definition: Proposing a legal definition to be used in statute and the more narrative definition that describes intent and purpose and use cases for this technology. Again, we don't need to reinvent the wheel. What I am thinking would be useful for the legislature and subject matter experts to look at the definition that's in CA and the one provided by MIT, is there anything they can tighten.

David's comment on the definition: More clarification, can we use the definition we have already drafted or do we use a definition that has already been used (MIT).

Cybersecurity and Risk Management--David

David provides an overview of his section--see associated document

BWG comments:

- Radhika: "Ensure the provenance"--it's so variable and use-case specific in terms of public vs. private, or permissioned vs. permissionless. It's very situational.
- Arshad: It's important to say that this is a very new technology and there will be a lot of risks for California, as well as a lot of benefits.
- Ben: I think point 3--integrity--will be integral for government adoption. I would err on allowing flexibility on who will be certifying. Will the state have the capacity to determine or implement certification? They may wish to seek a vendor. I do think it's going to be necessary based on the sheer amount of money involved.
- Michele: I've previously stated that the certification requirement would inhibit access for those who can't pay for university or vendor certification. I've been thinking about my previous stance and I think it's worth keeping a certification requirement in order to participate in state blockchain development. We should be careful about how that certification is set up (if you have to go to Stanford to get certified, that's problematic). If you're going to address who certifies, make sure that vulnerable populations can access it.
- Jason: Do we require certification for other types of computer programs for the state? If we do, I could support the certification practice. If we don't, I don't think we should call out blockchain.
 - Anne Neville-Bonilla: I think a lot about procurement. There, typically, you see something that talks about experience and number of major projects. In job descriptions, it's a combo of experience and credentials. Typically, that's the tradeoff. I don't see us typically ever regulating.
- Radhika: I worry about part 4 being too prescriptive.
- David: My comments are on part 4 and its prescriptive nature. I wish that our profession had stronger self-regulation. I wish things weren't the way they are. We don't ask for certification for other types of IT; we are disadvantaging blockchain if we go down this path. The cure becomes worse than the disease. We may miss out on opportunities to make things better. Maybe instead of

disadvantaging blockchain, we say something about improving the state of security professions in general.

- Radhika: Comment on #9--we're on various "on ramp" stages of adoption of blockchain in industry. I don't care for the word "experimental"; that has an inherent implication of risk. I would rather say "pilot period" where you're evaluating specific use cases.

Public comment:

- Jaz Shih: There's a lot of great information to put together, it would be easier for a layman to understand if we could have a diagram or visual representation of this information.
- Aleks: May we consider having a directory of private sector blockchain solutions, white papers, advisory groups to be included in the report? The directory of solution providers could be on the GovOps website. The Office of Digital Innovation could come up with a standard format for the private sector to submit solutions/white paper. Also, as of April 18th of this year, over 100 blockchain companies have responded to a Government Blockchain Association initiative and have responded to the BWG public comment.

Ethical Considerations--Michele and Sheila

Michele and Sheila give an overview of their recommendations--see associated document

- My main recommendations relate to community education and making sure that Californians have a base level of understanding.
- *BWG Comments:*
 - David: Thrilled about these two key recommendations. Maybe adding something about blockchain uses and accessibility--disabilities for example? I just wanted to ask.
 - Michele: There is legislation that should apply to protect people with disabilities. I'm happy to add that in there.
 - Cynthia: I'm thrilled to see this included too. The big issue people raise about blockchain is energy consumption. Do you go through technical standards of how to improve environmental sustainability of this technology in your section?
 - Michele: No, but I'm happy to add. My section was more general.
 - Radhika: There was an earlier draft that incorporated sustainability considerations. That did call out the types of blockchains.
 - Ben: Point 2 is very important. It's an interesting incentive to drive change in the industry. You could include this in whatever "innovation zone" might be created.
 - Anne: Perhaps we should move this up in the report?
- *Public comment:*
 - We seem to keep conflating "blockchain" and "blockchain technology." You aren't covering graph-based solutions.

Vital Records--Cynthia

Cynthia provides an overview of her recommendations--see associated documentation

- We've decided to call out permissionless public blockchain, but maybe we should move away from being this prescriptive? Would love to hear from the group about that.
- We will probably also modify and massage this to make sure it's not forcing counties to do something if they like their current tech or aren't ready to deploy blockchain yet.

BWG recommendations:

- Jason: I love the first recommendations--blockchain will be very helpful for vital records. But you're right that it should perhaps be less prescriptive. There are blockchains other than permissionless public that could be used for this.
- Radhika: I agree to not be too prescriptive. With legacy systems, it could be a hybrid system and you'd have to work with each individual legacy system. I'm excited that we're considering this for vital records. This is an important step forward. What's inherent in this too is identity. We should incorporate this into the identity portion.
- David: Agreed, take out permissionless public part. We'll probably deploy some hybrid technology. Also with #2, I'm not familiar with these codes. Let's make sure we agree with this.
 - Cynthia: These codes came from legislative council and committee. We can make this a bit broader and less prescriptive too, and can double check the codes.

Public comments--none

Health Records--Radhika and Arshad

Radhika and Arshad give an overview of her recommendation--see associated document

BWG comments:

- Jason: Recommendations all look great. I just wonder whether we also want to mention AB2004 that Majority Leader Calderon is carrying that relates to use of blockchain and verifiable credentials for medical testing/COVID-19 testing. This is a concrete way we can tie this to pending legislation.
 - Radhika: Makes sense. When we wrote this, we weren't in the throes of COVID. Now we have and we have an opportunity to re-think things.
- Ben: I was going to say the same thing, and ask to highlight COVID-19 and applications to testing. This does align with Senator Calderon's bill. Dealing with issues with COVID-19. Testing, contact tracing, etc.
- Arshad: I'm admittedly a pro-privacy person, but I worry about talking about contact tracing and the privacy violations of that. For me, even though I'm a technologist by profession, my philosophy tends to border more on pro-privacy uses.

- Radhika: I agree, but there has been a blockchain based contract tracing system developed through Mayo Clinic/WHO/MIT that is pro-privacy. That's in the nascent stages, but we could talk about that.
- Michael: Just as far as AB2004 goes, we have received concerns about privacy. That's why we like verifiable credentials and people owning their own health data.
- David: For things like medical records, it's long-lived. Cryptography will probably not be as long-lived. Let's remember that and let's call that out. It's different for things like supply chain where it's ephemeral.
 - Radhika: Where the health data resides will still be multi-cloud, of course. Hashes will just be on the blockchain.

Public comment

- Jim: As someone who has worked on blockchain in healthcare for the past few years, I just wanted to say I agree with your recommendations for health.

Food and Agriculture--Radhika and Brian

Radhika gives an overview of the Food & Ag recommendations--see associated documents

BWG comments

- David: I agree with these. I'm wondering if we should call out the specialty crops (track the California wine bottle, for example).
- David: Maybe also talk about the potential dollar value of these things? We could perhaps call out the dollar value of these industries and the potential to add to them. I felt like this is something that's missing in the report overall, and these might be the places to hit it.
 - Brian: We did call out the ag industry as a whole, but not the specific crops or small farms. It might be hard to get hard numbers on this. Perhaps we can get it for the specialty crops.

Public comment--none

Pharmaceutical--Radhika

Radhika gives an overview of Pharma recommendations--see associated documents

BWG comments

- Orit: We should make sure to call out the government's role in this.
 - Radhika: I agree. I tried to call out state government in this draft.

Property, Real Estate--Audrey

Audrey gives an overview of her recommendations--see associated documents

- There's one use case about exploring real estate licenses on a blockchain system. Encouraging private industry to explore blockchain to make things like Title Search more efficient and pass on savings to the end-consumer.

BWG comments:

- Camille: If there are recommendations that can be consolidated, please do.
- David: Another great set of applications. On number 6, I don't have issues with the intent. I just think the word "only" might be confusing.
 - Audrey: I see what you mean; I'm fine with changing that.

Property, Vehicles and Parts--Audrey

Audrey gives an overview of her recommendations--see associated documents

- The DMV gave an overview and I didn't have much beyond that

Property, Insurance--Audrey

Audrey gives an overview of her recommendations--see associated documents

BWG comments:

- Radhika:

Property, Firearms--Anne and Sheila

Anne gives an overview of her recommendations--see associated documents

- We don't have specific recommendations to be made on this time

Utilities/Natural Resources--Anne and Meredith

Anne and Meredith give an overview of her recommendations--see associated documents

BWG comments:

- Arshad: I know that California passed a law that new residential construction has to have solar energy panels installed. Is the building/solar industry looking at potential use of blockchain to track these installations and feed energy data for building compliance?
 - Anne: We didn't see any examples around that in our research. I'm not sure if there are other discussions that have happened.
- Brian: Maybe we could talk about blockchain for climate accounting? California could take a leadership position on this given the state's priority on combating climate change.

Justice/Civic Participation--Michele

Michele gives an overview of the Justice/Civic Participation recommendations--see associated documents

- Michele: I agree we can tighten up the voting reports and can make it shorter. Since we're not going to be moving forward (that's our recommendation) we can cut a lot of it out.

BWG comments:

- Arshad: I think these are great recommendations

Public comment:

Education and Workforce--Meredith and Jason

Meredith gives an overview of the Education & Workforce recommendation--see associated documents

- Meredith: I see that the new version of the report takes out some of our recommendations and the story we added to try and make blockchain more palatable for the average Californian.

BWG comments:

- Jason: We should be consistent with where we put the certification discussion (whether in Arshad's section or here).
- David: On item 4, it talks about California schools. Should we talk about community colleges too, since they educate such a big part of the law enforcement workforce, for example? Community colleges are real gems and there might be a real opportunity to partner with them here.

The role of state government--Senator Hertzberg and Assemblyman Calderon's offices

Cynthia discusses the recommendations--see associated documents

- We didn't want to be too prescriptive. We might have to change the vital records language given our previous conversation
- For stakeholder engagement, we should be sure to provide a framework for collaboration.
- I'm also thinking we should get rid of #1 because its so specific to vital records and could be in the vital records section, and consolidate the recommendations to #2 and #3

BWG comments:

- David: I love the multistakeholder aspect of 3A. This is worded in terms of assuming regulation. Maybe we should just state that the multi-stakeholder engagement would determine whether regulation would happen?
 - Michael: That makes sense, it doesn't have to be regulation.
- Jason: Why is 1A limited to marriage records? Maybe we could expand to driver's licenses.
 - Cynthia: That's a great point. This was probably pulled from an older draft.
- Meredith: My comments are for #2 and #3. We already mention the Safe Harbor and whether that's intended to be used legally or otherwise. For #3, I propose to

make “co-created among businesses of various sizes and types” to be broader and encompass “various organizations.”

- Michele: There seems to be multiple things happening in this section. I would push the multi-stakeholder collaboration up front.
 - I also don’t know why the Innovation Zone would be in this section.
- Cynthia: Seems like overall, this section might be duplicative with other sections. We’ll revise as necessary.

Public comment:

- Aleks: Just wanted to say you guys are doing a good job--thank you!

8) Next Steps to Finalizing the Working Group Report

- Camille: What I’d like to suggest is to take the Finance use cases we haven’t been able to discuss and the decision flow chart and discuss that in another meeting ASAP. Hopefully, we could schedule this in the next two weeks.
- Camille: For those use cases that we have been able to discuss, please revise. Please have those done by June 5. We want to have a final report by the end of June. Please use track changes when revising!

Camille goes over suggestions for revisions:

- Condense
- Focus on California
- Be neutral
- Please summarize any information coming from books
- Cite everything
- Spell out acronyms
- Avoid “we, me or I” statements

Camille goes over the timeline for finalizing the report

- The 1st, 2nd, or 3rd of June in the afternoon might be the best for us.

9) Future Agenda Items and Next Steps

10) Closing Remarks

Meeting ended at 3:38PM

11) Public comment on items not on the agenda

No public comment