

FROM: Steve Harris

TO: Committee on the Uniform Commercial Code and Emerging Technologies

RE: Issues Concerning Digital Assets

DATE: November 18, 2020

This Memorandum discusses the possible treatment of digital assets in the Uniform Commercial Code. It is based largely on discussions among the participants in the Digital Assets Working Group: Tom Buiteweg, Drew Hinke, Rob Isham, Steve Keen, Chuck Mooney, Carla Reyes, Ed Smith, Andrea Tosato, Steve Weise, and me.

Part 1 of the Memorandum provides an overview of the issues concerning digital assets that the UCC might be amended to address. Part 2 explains the tentative conclusions of the Working Group with respect to certain of these issues. Part 3 provides indicative formulations that reflect these conclusions, followed by explanatory Reporter's Notes.

Part 1: Commercial-law issues concerning digital assets

As a very general matter, a digital asset is information in electronic form. It may be a standalone asset, such as a virtual currency like Bitcoin, or it may be linked ("tethered") to an extrinsic asset. The extrinsic asset may be a right to payment, a right to another kind of performance, an interest in another type of intangible, or an interest in goods or real property.

The following issues concerning digital assets are among those that the UCC might be amended to address:

Definition of "digital asset" for purposes of the UCC

Acquisition of a digital asset

Rights acquired by a transferee of a digital asset, including whether (and, if so, when) a transferee should take free of third-party claims

Application of UCC Article 9 to digital assets, including attachment, perfection, priority, and enforcement

Effect of conversion of a digital asset to a tangible asset and vice versa

Effect of migration of a digital asset from one system to another

Finality of transactions in digital assets

Treatment of interests in an asset (right to payment, right to other kinds of performance, interest in goods or real property, etc.) that is tethered to a digital asset, including discharge of an obligation evidenced by a digital asset, claims and defenses of a person obligated to pay or

otherwise perform, and relationship of interests in a digital asset to interests of third parties in a tethered asset

Whether statutory provisions concerning a digital asset that is linked to a right to payment would allow for the creation of the functional equivalent of an electronic negotiable instrument

Whether special rules would be appropriate for different types of digital assets, such as virtual currency and fiat money

Whether the existing rules for electronic chattel paper and electronic documents should be retained, revised, or superseded

Whether special rules are necessary to protect consumers

Choice of law governing transactions in digital assets

Part 2: The Working Group's approach to resolution of certain commercial-law issues concerning digital assets

The Working Group began with the premise that inasmuch as determining the provenance of a digital asset normally would be impossible, most persons that take a digital asset should do so free of property claims, including security interests¹ and claims of ownership. Under the Working Group's approach, a purchaser of a digital asset would take the digital asset free of the property claims of third parties if the purchaser acquired its interest in, and obtained control of, the digital asset without notice of any adverse claim to the digital asset.

The concept of *control* has multiple meanings in the UCC, depending on the type of property involved. *See, e.g.*, UCC §§ 8-106 (containing four definitions of “control,” one for each of four different types of investment property); 9-104 (deposit accounts); 9-105 (electronic chattel paper). Under the Working Group's approach, a person having control of a digital asset must be a “purchaser,” *i.e.*, must have acquired its interest in the digital asset in a voluntary transaction, such as a sale or creation of a security interest. A purchaser would have control if the digital asset or the system in which it is recorded, if any, gives the purchaser three powers: (i) the nonexclusive power to derive substantially all the benefit from the digital asset, (ii) the exclusive (as the term is qualified) power to prevent others from deriving substantially all the benefit from the digital asset, and (iii) the exclusive power to transfer control of the digital asset to another person or cause another person to obtain control of a digital asset that derives from the digital asset. The concept of control is discussed below in the Reporter's Notes following Section DA-103.

The ability to take a digital asset free of third-party claims appears to be necessary for a digital asset to have commercial utility, and having control would be the key condition to being eligible to take free of third-party claims. To increase the likelihood that contemporary amendments to the UCC which focus on digital assets would be flexible enough to cover digital

¹ Unless otherwise indicated, references to a “security interest” are to a security interest that secures an obligation.

assets that may develop in the future, the Working Group adopted the following as its working definition of “digital asset”: an electronic record that can be subjected to control.

The primary value of some digital assets, such as Bitcoin, lies in the fact that they can be exchanged for other valuable assets, whether immediately or in the future. Other digital assets may evidence a right to payment from a third party (obligor). Although the owner of such a digital asset can realize the value of the asset by exchanging it, the owner often wishes to realize that value by obtaining payment from the obligor. (Of course, a person may acquire an interest in a receivable that is less than ownership, *e.g.*, a security interest that secures an obligation.) Under the approach taken by the Working Group, a digital asset would be a record, *i.e.*, information. A record that evidences a right to payment raises questions concerning the relationship of the record (digital asset) to the right to payment that the record evidences. In particular, under what circumstances, if any, should a person who acquires a digital asset evidencing a right to payment *ipso facto* acquire the right to payment itself? When should acquisition of a digital asset cut off claims to the right to payment that the digital asset evidences? When a person acquires a right to payment by acquiring the digital asset that evidences it, under what circumstances would the acquirer have the right to enforce the obligation against the obligor and what defenses would be available to the obligor?

Similar questions may arise with respect to a digital asset that evidences a right to performance of a nonmonetary obligation (*e.g.*, the obligation of a seller of goods to deliver the goods) or an interest in property (*e.g.*, goods or real property). To date, however, the Working Group has addressed only digital assets evidencing the right to payment of a monetary obligation. Its current thinking is that acquisition of a digital asset that evidences a monetary obligation should result in the acquisition of the right to payment itself only if the obligee behaves in such a way as to justify the potential loss of the obligee’s interest in the digital asset, and that a purchaser for value of the digital asset which obtains control should take not only the digital asset but also the right to payment free of all third-party claims.

Part 3: Statutory provisions addressing digital assets

Part 3 discusses statutory provisions that address some commercial-law aspects of digital assets. Part 3.A provides indicative formulations of provisions that might deal with digital assets generally. Part 3.B provides indicative formulations of provisions that might deal with digital assets that evidence the right to payment of a monetary obligation. Part 3.C describes a possible approach to Article 9 issues concerning digital assets that evidence a right to payment.

A. Provisions concerning digital assets generally

This Part provides indicative formulations of provisions that might deal with digital assets generally. These formulations are meant to assist the Committee in understanding the more abstract discussion of the legal rules that might be made applicable to digital assets. In accordance with the customary procedures of the sponsoring organizations, a drafting committee will consider the precise language to be used.

Section 1-201 is marked to show changes from the Official Text of the UCC. The other provisions, which are formulated as a Digital Assets article of the UCC, are new.

SECTION 1-201. GENERAL DEFINITIONS.

* * *

(b) Subject to definitions contained in other articles of the Uniform Commercial Code that apply to particular articles or parts thereof:

* * *

(15A) “Digital asset” means an electronic record that can be subjected to control (Section DA-102). The term does not include [documents of title, electronic chattel paper, other electronic records to be determined].

* * *

(16A) “Electronic” means relating to technology having electrical, digital, magnetic, wireless, optical, electromagnetic, or similar capabilities.

* * *

(31) “Record” means information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form.

* * *

Reporter’s Notes

1. *Source of new definitions.* Subparagraph (15A) is new. Subparagraph (16A) derives from E-SIGN, 15 U.S.C. § 7006(2).

2. *“Digital asset.”* Under the definition, a “digital asset” would be an “electronic record,” *i.e.*, information that is stored in an electronic or other medium and is retrievable in perceivable form. To be within the scope of this Digital Assets article, the record must be susceptible of control under Section DA-102. See Section DA-101.

SECTION DA-101. SCOPE. This article applies to digital assets.

SECTION DA-102. CONTROL OF DIGITAL ASSET.

(a) A purchaser has “control” of a digital asset if:

(1) The following conditions are met:

(A) the digital asset or the system in which it is recorded, if any, gives the purchaser:

(i) the power to derive substantially all the benefit from the digital asset;

(ii) subject to subsection (c), the exclusive power to prevent others from deriving substantially all the benefit from the digital asset; and

(iii) subject to subsection (c), the exclusive power to transfer control of the digital asset to another person or cause another person to obtain control of a digital asset that derives from the digital asset; and

(B) the digital asset or a record attached to or logically associated with the digital asset enables the purchaser to readily identify itself as the person having the powers specified in subparagraph (A); or

(2) another person has control of the digital asset on behalf of the purchaser or, having previously acquired control of the digital asset, acknowledges that it has control on behalf of the purchaser.

(b) For the purposes of subparagraph (a)(1)(A), a purchaser may be identified in any way, including by name, identifying number, cryptographic key, office, or account number.

(c) A power specified in subparagraphs (a)(1)(B) or (a)(1)(C) can be “exclusive,” even if:

(1) the digital asset or the system in which it is recorded, if any, limits the use to which the digital asset may be put or has protocols that are programmed to result in a transfer of control; and

(2) the purchaser has agreed to share the power with another person.

Reporter’s Notes

1. *Why “control” matters.* Control would serve two major functions in this article. An electronic record would be a “digital asset” and would be subject to the provisions of this article only if it is susceptible to control under this section. *See* Section DA-101. Moreover, a purchaser having control of a digital asset would take free of all third-party claims to the digital asset under Section DA-103.

2. *Control; purchaser.* This section sets forth the requirements for having “control” of a digital asset. These requirements differ from the requirements for having control of other types of property. *See, e.g.,* UCC §§ 7-106 (control of electronic documents of title); 8-106 (control of securities and security entitlements); 9-104 (control of deposit account); 9-105 (control of electronic chattel paper). Under this section, only a “purchaser” may have control of a digital asset and thus be eligible to take its interest in the digital asset free of adverse claims. *See* Section DA-103. “‘Purchase’ means taking by sale, lease, discount, negotiation, mortgage, pledge, lien, security interest, issue or reissue, gift, or any other voluntary transaction creating an interest in property.” UCC § 1-201(b)(29). Law other than the UCC would determine whether any particular transaction creates a property interest in a digital asset.

3. *Control through a third party.* As a general matter, the law of agency supplements the provisions of the UCC. UCC § 1-103(b). Accordingly, a purchaser may have control through an agent.

Subsection (a)(2), which derives from UCC § 8-106(d)(3), would enable a purchaser to have control if another person has control on behalf of the purchaser or, having previously acquired control, acknowledges that it has control on behalf of the purchaser. The other person need not be the purchaser's agent.

4. *Powers; inability to exercise a power.* This section would condition control on a purchaser having the three powers specified in subsection (a)(1)(A). A purchaser would have a "power" described in this section if the digital asset or any system in which it is recorded gives the purchaser that power, even if the characteristics of the particular purchaser disable the purchaser from exercising the power (as would be the case, *e.g.*, if the purchaser holds the private key required to access the benefit of the digital asset but lacks the hardware required to use it).

5. *Power to derive benefit.* Subsection (a)(1)(A)(i) would allow for a purchaser to have control, even if another person also enjoys the power to derive substantially all the benefit from the digital asset.

The system in which a digital asset is recorded may limit the benefit from the digital asset that is available to those who interact with the system. In determining whether a person has the power to derive substantially all the benefit from a digital asset under subsection (a)(1)(A)(i), only the benefit that the system makes available should be considered.

6. *Exclusive powers.* Unlike the power in subsection (a)(1)(A)(i), the powers in subsections (a)(1)(A)(ii) and (a)(1)(B)(iii) must be held exclusively by the purchaser in order to establish control.

Subsection (c) contains two limitations on the term "exclusive" as used in subsection (a). Under subsection (c), a power can be "exclusive" if one or both of these limitations apply.

Subsection (c)(1) takes account of the fact that the powers of a purchaser of a digital asset necessarily are subject to the attributes of the digital asset and the protocols of any system in which the digital asset is recorded.

One effect of subsection (c)(2) is that, under a multi-signature (multi-sig) agreement, any person that is reasonably identifiable under subsection (a)(1) and shares the relevant power would be eligible to have control, even if the action of another person is a condition for the exercise of the power. Subsection (c)(2) also obviates any need to refer in subsections (a)(1)(A)(ii) and (A)(iii) to the purchaser's "consent."

7. *Readily identify.* Subsection (a)(1)(B) requires that, for a purchaser to have control of a digital asset, the digital asset or any record attached to or logically associated with the digital asset must enable the person to readily identify itself as the person having control. This subsection does not obligate a purchaser to identify itself as having control. However, to prove that it has control, a purchaser would need to prove that the relevant records readily identify the person as such.

An official comment could give examples of records that are attached to or logically associated with a digital asset.

Subsection (b) derives from UCC § 3-110(c). It adds “cryptographic key” as an example of a way in which a person may be identified for purposes of subsection (a)(1)(B).

SECTION DA-103. RIGHTS OF PURCHASER THAT OBTAINS CONTROL.

(a) In this section, “adverse claim” means a claim that a claimant has a property interest in a digital asset or a right to payment evidenced by the digital asset and that it is a violation of the rights of the claimant for another person to hold, transfer, or deal with the digital asset or the right to payment.

(b) Except as provided in subsection (e), a purchaser that acquires an interest in and obtains control of a digital asset without notice of any adverse claim takes its interest in the digital asset and in any right to payment evidenced by the digital asset free of any adverse claim.

(c) Except as provided in subsection (e), an action based on an adverse claim to a digital asset or a right to payment evidenced by a digital asset, whether framed in conversion, replevin, constructive trust, equitable lien, or other theory, may not be asserted against a [person] [purchaser] that acquires its interest in, and obtains control of, a digital asset or interest therein for value and without notice of the adverse claim.

(d) A purchaser has notice of an adverse claim if:

(1) the purchaser knows of the adverse claim; or

(2) the purchaser is aware of facts sufficient to indicate that there is a significant probability that the adverse claim exists and deliberately avoids information that would establish the existence of the adverse claim.

(e) Subsections (b) and (c) do not apply if more than one digital asset evidences the same right to payment.

Reporter’s Notes

1. *Source of these provisions.* Subsection (a) derives from UCC § 8-102(a)(1).

Subsection (b) derives from UCC §§ 8-302(b) (concerning the rights of a protected purchaser) and 8-105(a) (concerning notice of an adverse claim).

Subsection (c) derives from UCC § 8-502 (protecting entitlement holders). UCC 8-502 affords protection to all persons, including those that take in involuntary transactions such as judicial lien creditors. Consideration should be given as to whether subsection (c), like subsection (b), should protect only purchasers.

Subsection (d) derives from UCC § 8-105(a); however, it omits § 8-105(a)(3), which addresses persons having a duty to investigate whether an adverse claim exists.

2. *Relation of subsection (b) to subsection (c).* The rule in subsection (b) was originally designed for securities, and the rule in subsection (c) for security entitlements. The former assumes that both the purchaser and the third person hold a property claim against the same asset. The latter recognizes that the purchaser holds a property claim against an asset that is arguably traceable to the asset against which the third person held a property claim but is not the identical asset. This section would protect purchasers for value without notice of an adverse claim, regardless of whether the purchaser acquired the same digital asset against which the third party asserts a claim, or whether the purchaser acquired a digital asset that is traceable to the digital asset against which the third party asserts a claim.

Suppose, for example, that a digital asset “migrates” from one system to another and a third person held a claim against the pre-migration asset. If the post-migration digital asset is the same asset as the pre-migration one, then subsection (b) would protect the purchaser. If the two assets are different assets, then subsection (c) would afford protection.

*B. Provisions concerning digital assets that are linked
 (“tethered”) to an extrinsic asset*

SECTION DA-101A. DEFINITIONS.

(a) “Authenticate” means:

(1) to sign; or

(2) with present intent to authenticate or adopt a record, to attach to or logically associate with the record an electronic sound, symbol, or process.

(b) A digital asset “evidences a right to payment” if the digital asset:

(1) [reasonably identifies] the right to payment; and

(2) the person having the right to payment:

(A) records the digital asset in a system that whose protocols provide that acquisition of a digital asset may have the effect described in sections DA-103 DA-104[; or

(B) acquiesces in the digital asset being recorded in a system that whose protocols provide that acquisition of a digital asset may have the effect described in sections DA-103 and DA-104].

(c) “Right to payment” means a right to payment of a monetary obligation.

Reporter’s Notes

1. “*Authenticate.*” This definition was borrowed from UCC § 9-102(a)(7).

2. “*Evidences a right to payment.*” The Working Group agreed that a digital asset should not “evidence a right to payment” unless the digital asset includes information connecting the digital asset to the right to payment that it evidences. They disagreed as to how much information should be required. The bracketed language in subsection (b)(1) is meant to

preserve this issue. Subsection (b)(2) is discussed below in the Reporter’s Notes to Section DA-104.

3. *“Right to payment.”* The provisions under consideration would apply only to digital assets that evidence a right to payment of a monetary obligation.^[2] The discussion of tethered assets in this context will inform future discussions concerning whether the Digital Assets article should include provisions dealing with other underlying assets and, if so, what the substance of those provisions might be.

As defined in this section, “right to payment” is meant to exclude a right to performance of a non-monetary obligation whose breach or nonperformance gives rise to a right to the payment of damages. The draft might be revised, or an official comment added, to make this clearer.

4. *Excluded receivables.* As progress on these provisions continues, the definition of “digital asset” might be revised to exclude certain rights to payment of a monetary obligation, *e.g.*, those that are evidenced by chattel paper. The Study Committee should be alert for other types of rights to payment for which the draft provisions may not be suitable. The Study Committee also might consider whether to exclude “transferable records” under E-SIGN, UETA, or both.

SECTION DA-104. ACQUISITION OF RIGHTS IN A RIGHT TO PAYMENT. The acquisition of a right or interest in a digital asset that evidences a right to payment is the acquisition of the identical right or interest in the right to payment.

Reporter’s Notes

1. *Acquisition of a digital asset and the underlying right to payment.* The working assumption is that law other than the UCC will determine when a person acquires a right or interest in a digital asset. Under this section, the acquisition of a right or interest, including a security interest, in a digital asset that evidences a right to payment would result in the acquisition of the same right or interest in the underlying right to payment. The working assumption is that an additional provision will provide that, consistent with UCC § 9-203(f) and (g), the acquisition of a right to payment also would result in the acquisition of any “supporting obligation” for the right to payment and any security interest or other lien on personal or real property that secures the right to payment.³

2. *“Evidences a right to payment.”* The concept of “evidences a right to payment,” defined in Section DA-101A, would limit the application of this section. This limitation is needed to protect the interests of the obligee (owner of the right to payment). Under draft § DA-103, a purchaser that acquires and has control of a digital asset would take free of conflicting

² “‘Money’ means a medium of exchange currently authorized or adopted by a domestic or foreign government. The term also includes a monetary unit of account established by an intergovernmental organization or by agreement between two or more countries.” UCC § 1-201(b)(24).

³ “Supporting obligation” includes a letter-of-credit right or secondary obligation that supports the payment of an account. *See* UCC § 9-102(a)(78).

claims to the right to payment evidenced by the digital asset. An obligee should not risk losing its ownership of a right to payment in this manner unless it agrees to take this risk. Accordingly, the concept of “evidences a right to payment” would limit the scope of the rule in this section to those situations in which the obligee has so agreed.

The definition of “evidences a right to payment” would provide that an agreement to take the risks imposed by this section must be manifested by the obligee’s behavior. Subsection (b)(1) of Section DA-101A would this condition would be satisfied if the obligee records the digital asset in a system whose protocols provide for acquisition of the digital asset to constitute acquisition of the right to payment. This subsection may be satisfied even if the obligee does not personally record the digital asset. For example, it would be satisfied if the digital asset is recorded by the obligee’s agent (see UCC § 1-103(b), providing that, unless displaced by the particular provisions of the UCC, the law of agency supplements the provisions of the UCC) or otherwise as a direct result of the obligee’s instructions or other conduct.

The Working Group discussed whether conduct short of an agreement by the obligee might be a sufficient alternative to the obligee recording the digital asset in a system whose protocols provide that acquisition of a digital asset may have the effect described in Sections DA-103 (purchaser having control takes free of all third-party claims) and DA-104 (acquisition of a digital asset that evidences a right to payment constitutes acquisition of the right to payment). Bracketed subsection (b)(2) is meant to capture the possibility.

3. *Conversion or reissuance.* The Digital Assets article will need to address the effect of conversion or reissuance of a digital asset that evidences a right to payment. For a discussion of the Working Group’s current thoughts on this issue, see the Part C below.

SECTION DA-103. RIGHTS OF PURCHASER THAT OBTAINS CONTROL.

[The text of this section and related Reporter’s Notes appear above on pages 7-8. The following Reporter’s Notes address aspects of the section that concern a right to payment that is evidenced by a digital asset.]

Reporter’s Notes

1. *Application of this section to a right to payment evidenced by a digital asset.* This section would give a purchaser that has control of a digital asset and takes the digital asset free of conflicting claims the corresponding “take free” rights with respect to the right to payment evidenced by the digital asset.

This section reflects the “substitution” or “merger” approach described below in Part C. Part C also describes some of the implications of this section for holders of a security interest in a right to payment that becomes evidenced by a digital asset.

2. *Multiple digital assets that evidence the same right to payment.* A right to payment might be evidenced by more than one digital asset. It would be possible under these circumstances for one person to have control of one of the digital assets while another person has control of the other. If so, each person would take free of the other’s property claim. There are

several plausible statutory solutions to this problem. Subsection (e) would leave the resolution of this issue to other law.

3. *Relation to other law.* Additional statutory provisions would be necessary to coordinate this section with the provisions of UCC Article 9 and the transferable records provisions of UETA and E-SIGN.

SECTION DA-105. DISCHARGE OF PERSON OBLIGATED ON RIGHT TO PAYMENT EVIDENCED BY DIGITAL ASSET. A person obligated on a right to payment evidenced by a digital asset may discharge its obligation by paying the assignor until, but not after, the person receives a notification, authenticated by the assignor or the assignee, that the amount due or to become due has been assigned and that payment is to be made to the assignee. After receipt of the notification, the person obligated may discharge its obligation by paying the assignee and may not discharge the obligation by paying the assignor.

Reporter's Notes

1. The Working Group has yet to consider this section.

2. *Source.* This section is taken from UCC § 9-406(a) and expanded to cover not only account debtors on an account, chattel paper, or a payment intangible but also persons obligated on other rights to payment of a monetary obligation. If this section is retained, many of the other provisions of UCC § 9-406 should be added to it, including those that protect consumer obligors.

3. *Relation to control provisions.* The effect of control of a digital asset on the question of discharge would be analogous to the effect of perfection of a security interest in a right to payment under UCC Article 9. More specifically, if a right to payment has been assigned to multiple assignees, a person obligated may discharge its obligation under this section regardless of the relative priority of the assignees.

SECTION DA-106. RIGHTS ACQUIRED BY ASSIGNEE; CLAIMS AND DEFENSES AGAINST ASSIGNEE. Unless a person obligated on a right to payment evidenced by a digital asset has made an enforceable agreement not to assert defenses or claims, and subject to subsections (b) through (e), the rights of an assignee of the right to payment are subject to:

(1) all terms of the agreement between the person obligated and assignor and any defense or claim in recoupment arising from the transaction that gave rise to the right to payment; and

(2) any other defense or claim of the person obligated against the assignor which accrues before the person obligated receives a notification of the assignment authenticated by the assignor or the assignee.

Reporter's Notes

1. The Working Group has yet to consider this section.

2. *Source.* This section is taken from UCC § 9-404(a). If this section is retained, many of the other provisions of UCC § 9-404 should be added to it, including those that protect consumer obligors.

3. *Scope.* The scope of this section is broader than that of UCC § 9-404(a). It would apply not only to account debtors on an account, chattel paper, or a payment intangible but also to persons obligated on other rights to payment, including rights to payment that would have been Article 3 negotiable instruments if they had been in writing. By signing an Article 3 negotiable instrument, a person *ipso facto* disables itself from asserting most defenses to its obligation to pay if the instrument is taken by a holder in due course. *See* UCC § 3-305(b). In contrast, under this section an obligor would not lose its defenses unless it made an enforceable agreement not to assert them.

4. *Electronic negotiable instruments.* At earlier meetings, the Committee considered a draft of UCC Article 3 that would be amended to provide rules for electronic negotiable instruments that are virtually identical to the existing rules for tangible negotiable instruments. Taken together with Section DA-103, this section would allow the parties to create a right to payment whose attributes include the primary attributes of a negotiable instrument (freedom from third-party property claims and from the obligor's claims and defenses) without conditioning these attributes on the formalities of negotiable-instruments law. The Committee will need to decide which path to follow.

*C. Article 9 provisions concerning digital assets that evidence
the right to payment of a monetary obligation*

The Working Group engaged in preliminary discussions concerning the approach that Article 9 might take to digital assets that evidence a right to payment. They are inclined to adopt the “merger” or “substitution” approach that governs a right to payment that subsequently becomes embodied in an Article 3 negotiable instrument. (E-SIGN and UETA take this approach with respect to transferable records.) Consider the following example:

SP-1 has a perfected security interest in Debtor's “accounts,”⁴ which are evidenced by electronic records that are not digital assets (for example, they are not in a system that makes them susceptible to control). Debtor takes action so that one of the accounts becomes evidenced by a digital asset.

Under the substitution approach, when the account becomes evidenced by a digital asset, the digital asset would be substituted for the account (put otherwise, the account would merge into the digital asset) and SP-1's security interest in the account would dissolve.⁵ The digital

⁴ UCC § 9-102(a)(2) defines “account” to include many rights to payment of a monetary obligation. A right to payment that constitutes chattel paper or an Article 9 instrument presents additional issues that the Working Group has yet to consider.

⁵ This assumes that Article 9 would be amended to provide that “digital assets” would become a type of collateral.

asset would constitute identifiable proceeds of the account,⁶ and SP-1's security interest automatically would attach to, and be perfected in, the digital asset.⁷

Substituting a digital asset for an account might affect SP-1's priority. Suppose that, before Debtor's account became evidenced by a digital asset, SP-2 held a security interest in Debtor's existing and after-acquired digital assets and SP-2 had perfected its security interest by filing before SP-1 filed against accounts. At this point, only SP-1 would hold a perfected security interest in Debtor's account. If an account becomes evidenced by a digital asset and the digital asset is substituted for the account, SP-1's security interest in the digital asset would be subordinated to SP-2's earlier-perfected security interest in digital assets. SP-1 could guard against this risk by searching the records of the filing office and filing before extending credit to Debtor. Conversely, if SP-1 filed before SP-2, SP-1's security interest in the digital asset would be senior to SP-2's, putting the risk on SP-2 that Debtor's acquisition of the digital asset might be of little value to SP-2.

The greatest risk to a secured party with a pre-conversion security interest in a right to payment (here, SP-1) would come from the possibility that a purchaser of the digital asset (whether a buyer or lender) would obtain control, thereby cutting off or subordinating SP-1's security interest. The Working Group has yet to reach a consensus on whether, and if so how, to mitigate this risk.

Under an alternative approach, the digital asset and the account that it evidences would constitute separate but related assets. This approach would be analogous to that of UCC Article 7. When goods are covered by a negotiable warehouse receipt or other document of title, a security interest in the goods can be perfected by perfecting as to the document or as to the goods.⁸ Experience with this approach suggests that it is likely to be more complicated than the substitution approach.

⁶ See UCC § 9-102(a)(64) ("proceeds" includes whatever is acquired upon the disposition of collateral).

⁷ See UCC § 9-315(a)(1) (attachment), (c) (perfection). This assumes that Article 9 would provide that a security interest in a digital asset, like a security interest in almost all other types of collateral, could be perfected by filing.

⁸ See UCC § 9-312(c).