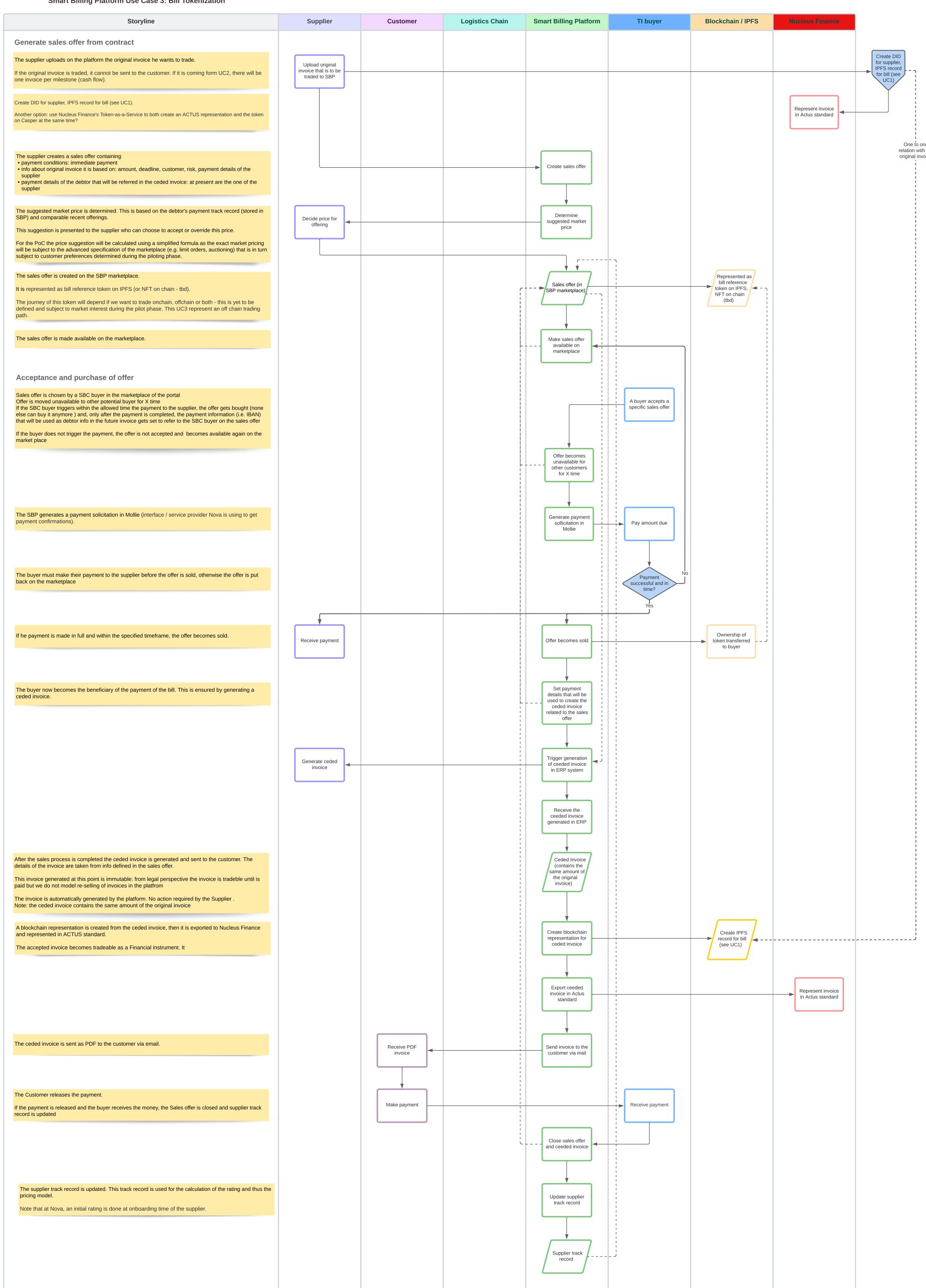
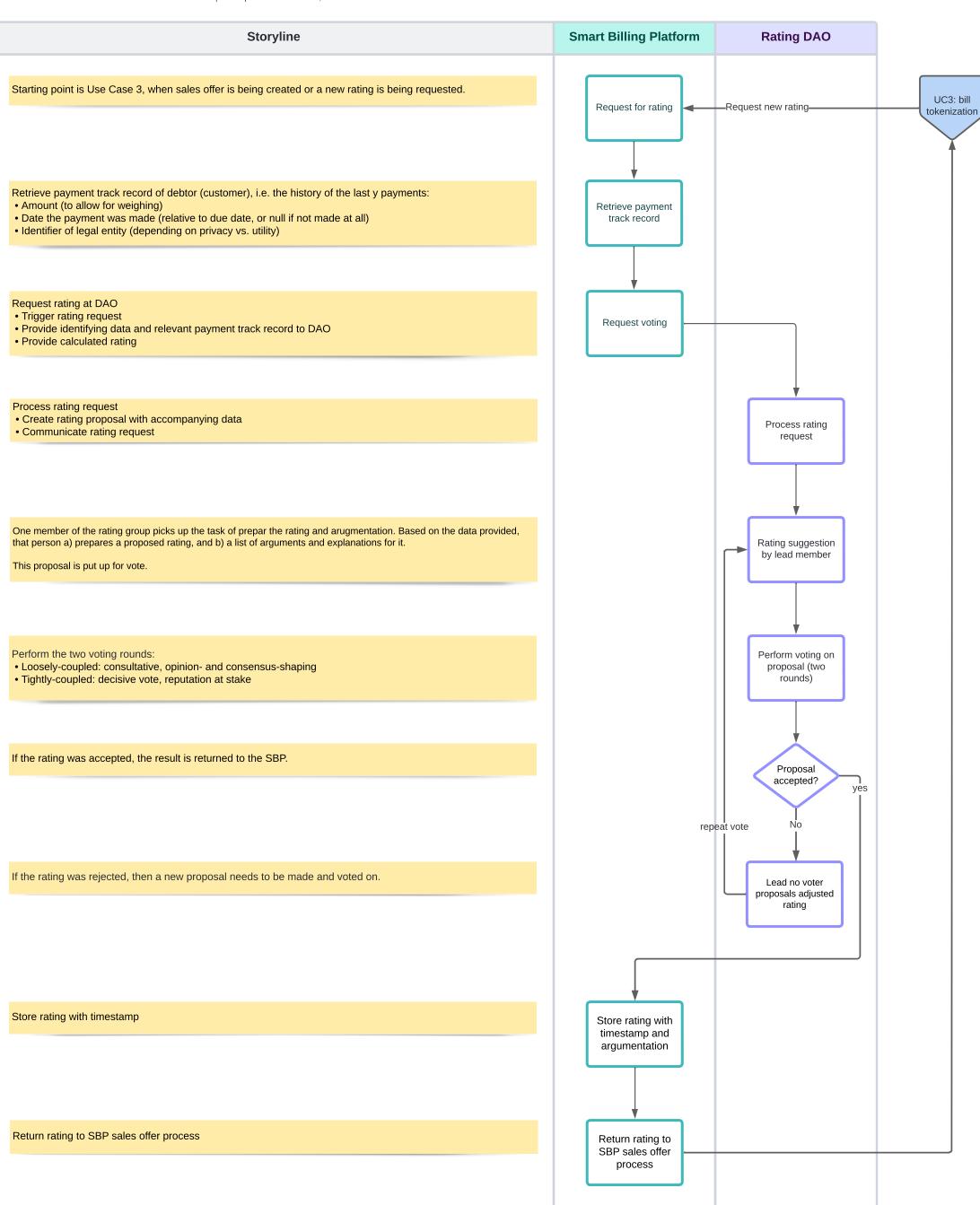


Smart Billing Platform Use Case 2: Smart Bills Christian Lätsch | Last update: November 23, 2022 **IPFS Supplier** Customer **Logistics Chain Smart Billing Platform** Storyline **Example:** meat sale and delivery - Negotiate and generate contract Delivery contract is negotiated and fixed between meat supplier and customer. It contains: 1. Delivery obligations (exact contract content to be defined) a. Kind (animal type/age etc.) Negotiate purchase Negotiate sale b. Origin (country, conventional/organic, producer?) c. Grade (standardised system?) d. Production date (or production window?) e. Other? 2. Payment details: Bank account (and potentially address, BIC, etc.) 3. Payment terms & conditions a. Conditions Physical/logical b. Schedule, Milestones contract Result is a traditional contract (paper, e-mail). Delivery contract is entered into ERP at supplier 1. With delivery obligations Enter contract into 2. Implicit obligations and payment details are automatically attached (by means of valid frame contract / 3. Fulfillment details: a. Source/producer b. Logistics path/partners/validators 4. Payment terms & conditions ERP contract ERP add-on generates Smart Bill Contract: Generate Smart Trigger creation of 1. Instantiate Smart Protocol Smart Bill Bill Contract 2. Set delivery obligations 3. Set payment terms & conditions If possible by means of ERP Add-on. Fallback: manual creation on web UI (certainly for the PoC/Pilot). SBP writes a subset of the bill information to IPFS. Write subset of Smart Bill bill information to Contract **IPFS Ship merchandise** The merchandise becomes ready for shipping. Merchandise is In the following steps we assume two milestones: ready for shipping 1. Goods are shippped 2. Goods are received by the customer This schema could also be generalised for more milestones. The merchandise is shipped by the Supplier. This is provided as an update to the SBP, which updates the Ship merchandise Smart Contract. and add monitoring devices **Logistics Chain** Monitoring and milestone triggers The merchandise is passing through the supply chain in containers. IoT Sensors monitor the containers (location, temperature, more?) and push updates to the SBP that are logged on the Smart Contract. Monitoring IoT integration is subject to actual availability and partnerships. The SBP triggers the creation of the invoice corresponding to the first milestone. Trigger invoice If possible by means of an API. As a fallback, by e-mail and manual invoice generation. generation for first milestone The invoice is generated in the supplier's ERP. Generate the invoice in ERP UC3: Bill Tokenization or UC5: Bill Collateralization The invoice is uploaded to the SBP, linked to the original contract, written to IPFS and signed. This is done e.g. by ERP Add-on, or as a fallback manually through a web interface. Upload the invoice Invoice for first Write invoice to to the SBP milestone The invoice is transmitted to Nucleus Finance and represented according to the ACTUS standard which produces a payment schedule. Represent invoice in Actus standard The payment schedule is validated by the backend Cross check payment schedule Prepare payment _Listenwirth deadline and schedule amount of invoice The invoice is sent to the customer who checks that the milestone has really been reached and then triggers the payment. Receive the Send invoice to the customer invoice Check that the milestone is reached UC1: Bill Verify invoice The SBP receives information about on the sucessfull payment from Mollie and updates the status of the SBC. Receive payment Pay invoice notification **Logistics Chain** Delivery The merchandise is received at the customer. The logistics monitoring detects the arrival at the destination Goods are delivered The invoice is generated in the supplier's ERP. Trigger invoice Generate the generation for invoice in ERP UC3: Bill delivery milestone Tokenization or UC5: Bill Collateralization The invoice is uploaded to the SBP, linked to the original contract, written to IPFS and signed. This is done e.g. by ERP Add-on, or as a fallback manually through a web interface. Invoice for Upload the invoice Write invoice to delivery to the SBP **IPFS** milestone The invoice is represented according to the ACTUS standard which produce a payment schedule. The payment schedule is validated by the backend Represent invoice in Actus standard Cross check payment schedule Prepare payment wirth deadline and schedule amount of invoice The invoice is sent to the customer. Send invoice to Receive the the customer invoice The customer checks the meat according to delivery obligations, in particular: UC1: Bill Quantity, kind and grade of meat Verify the delivery • Cool chain (thermometers) verification and the invoice Delivery time In case of non-compliance with the obligations, the entire affected container is rejected, documented and disposed of. If all is well, the customer triggers the payment. Receive payment Pay the invoice notification The SBC receives information about on the sucessfull payment from Mollie and updates the status of the Update the SBC status The supplier gets notified and the original contract is closed Close SBC Close contract contract **Logistics Chain**

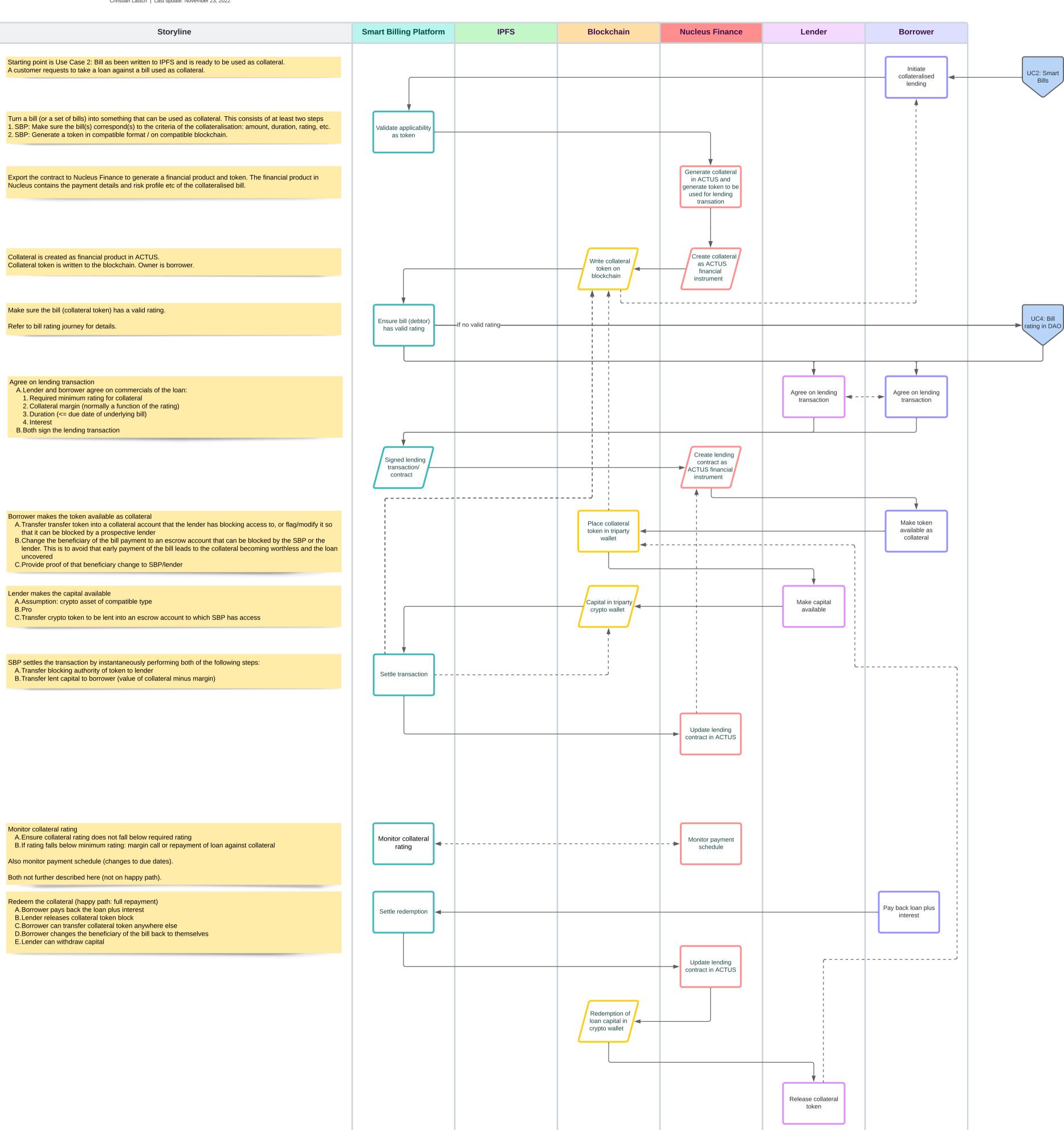


Smart Billing Platform Use Case 4: Bill Rating by means of a DAO

Christian Lätsch | Last update: November 23, 2022



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Smart Billing User Journeys: Legend

