CATALOGUE

Best easy-to-like and easy-to-use frontends

HOW DO COMMERCIAL BANKING FRONTENDS LOOK LIKE?

What are the basic features?

The basic features can be categorized into three parts: Inform, Transact and Services.

Where does the interaction take place?

Most interaction still takes place in the services part (help corner).

How can we change this?

- → **Platform strategy:** integrate many features within the platform that help and make the life of clients easier, such as account aggregation, loan templates, accounting tools, pdf-document converter as well as many interactive tools.
 - the ultimate goal is to offer clients the most convenient way to use commercial banking and by their interaction, tie them to the bank

Our preffered client portal:

- i) Automates as much steps and tools as possible,
- ii) Intuitive and easy to use for both clients and employees,
- iii) Very interactive so clients are able to build a relationship with the bank but do not need to set up a meeting with their client advisor every time they need/want to interact with the bank,
- iv) Customizes their service offering to the needs of the clients, so he/she feels and trusts that he's/she's in good hands (essential for long term relationships)

COMMERCIAL BANKING FRONTENDS CAN BE GROUPED INTO THREE CATEGORIES

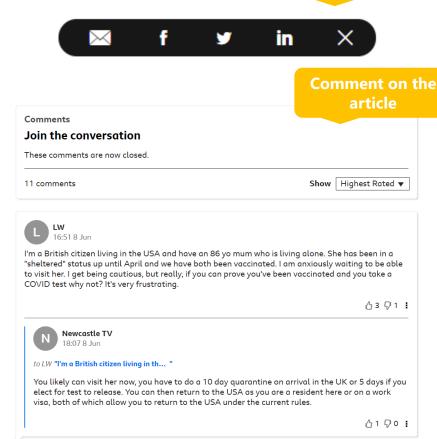
Inform	Transact	Services
News	Mobile sign-up	Help corner
Research	Bio-metric authentication	Omni-channel support
Economic commentary	Customizable dashboard	Real-time alerts
Markets, e.g., deposit rates and FX charts	Account aggregation	Payment limits
Example interaction: let clients comment, repost, share articles	Clear user- and permission administration	ERP integration
	Document collaboration	Integrated accounting/ invoicing
	Templates for recurring / regular payments	Example interaction: clients and employees interact via video chat for help
	Batch payments	
	Payments and loan chat	
	Example interaction: clients use chat function to make a transaction	



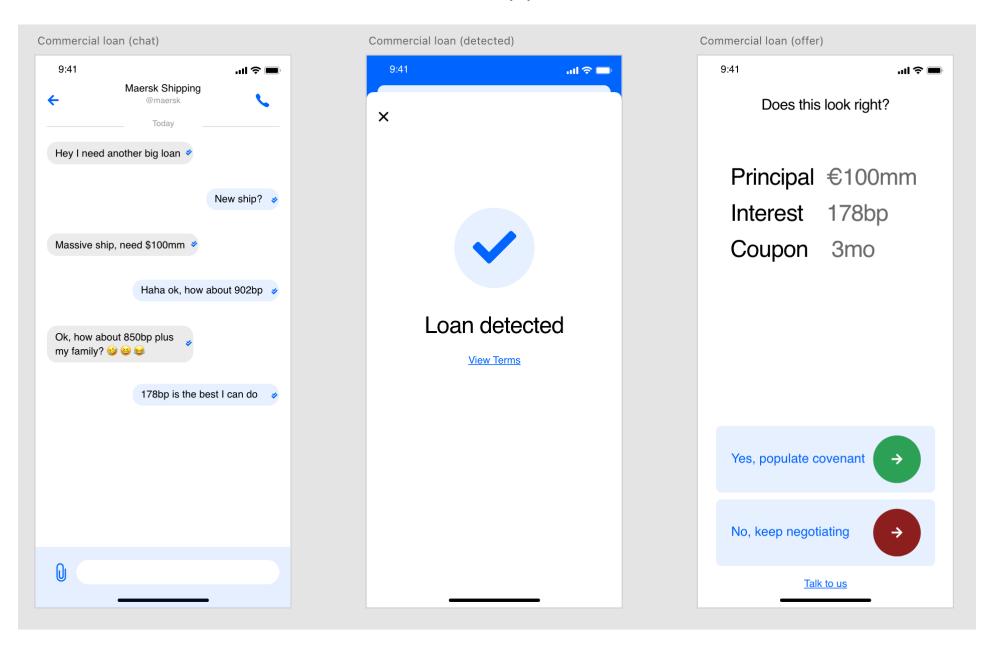
Bidenomics: Evolution or Revolution

30 JUN 2021

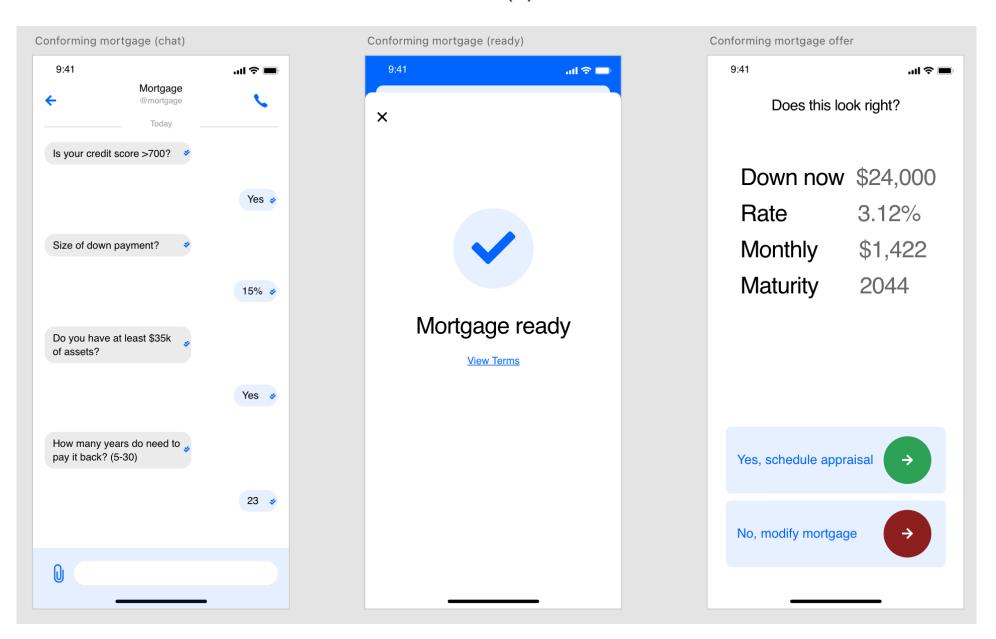
As President Biden's economic agenda—"Bidenomics"—takes center stage in Washington DC, how big of a shift in US economic policy it represents, and the economic and market implications of what actually passes, are Top of Mind. Goldman Sachs Research gets insights from Harvard's Jason Furman, CEPR's Dean Baker, Stanford's David Brady, and our own analysts. Their views differ on the extent to which Bidenomics truly marks a policy shift, with Baker seeing more of a sea change than others. And despite recent progress toward a bipartisan infrastructure bill, all see major challenges to passing much of Biden's agenda in this manner, and greater odds that more of it passes under a party-line approach, though success there too isn't assured. Furman and Baker also disagree on the near-term economic impact—with Furman more concerned about higher inflation—but mainly agree on its longer-term benefits. One of the biggest implications could be a higher neutral interest rate, which could break, or even reverse, long-prevailing market trends.



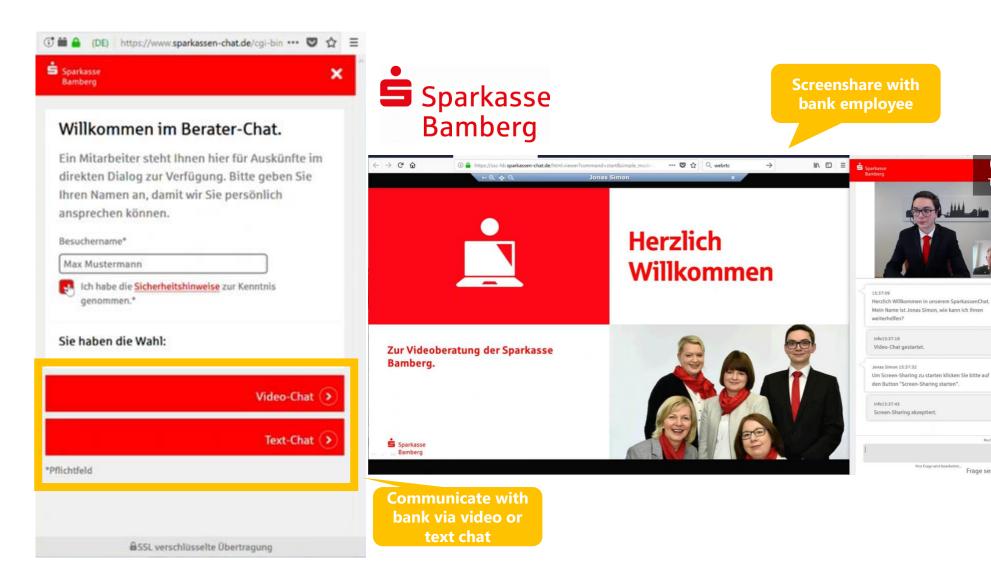
EXAMPLES OF INTERACTION: TRANSACT (1)



EXAMPLES OF INTERACTION: TRANSACT (2)



EXAMPLES OF INTERACTION: SERVICES



7

Frage senden (>)

HCOB'S COMPETITORS OFFER NONE OR ONLY VERY FEW INTERACTIVE FEATURES ON THEIR BANKING FRONT-ENDS

HCOR's competitors

Interactive front-end features	
Almost none	
Convincing frontend but almost no interaction	
Not accessible	
Not accessible	
Telephone and email	
Normal online banking app (retail)	
None (association of Sparkassen)	
None (association of Sparkassen)	
Web banking and client portal; likely similar to HCOB	
Web banking and client portal; likely similar to HCOB	
None (association of Sparkassen)	
None visible to us but seem to be quite tech savvy (DMX graphics library)	

MACHINE-READABLE DECISION TREE FOR SIMPLE CONFORMING MORTGAGE

Value	How do we get it?
Credit score	Chat but verify (Bureau/proprietary)
Total assets	Chat but verify (Plaid US/PSD2 EU)
Employment status	Chat
Monthly income	Chat but verify (Plaid US/PSD2 EU)
Down payment	Chat
Duration	Chat

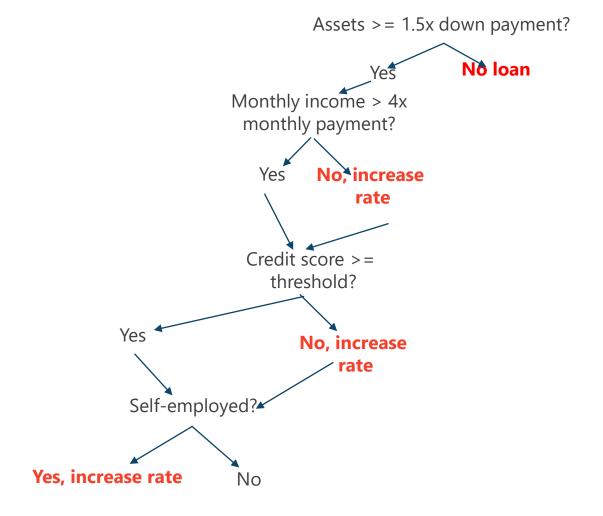
Rate = SS(credit score, total assets, cash flow, employment)

MACHINE-READABLE DECISION TREE FOR COMPLEX COMMERCIAL LOAN

Value	How do we get it?	
Credit assessment	Credit committee + IRB	
Payment schedule	Chat (bespoke if necessary)	
Country	KYC	
Duration	Chat	
Prepay penalty	Chat	
Sector details	Chat (bespoke if necessary)	

Rate = SS*(credit, payment schedule, country, duration, prepay penalty)

MACHINE-READABLE DECISION TREE FOR SIMPLE CONFORMING MORTGAGE



DEMO SUMMARIES

Current status: Still in talks, preparation of second meeting

Current status: Still in talks, waiting for second meeting

COMARCH

 "Engagement banking platform" but essentially a SaaS provider for banks

BACKBASE

Clients range from large banks such as Barclays, Citibank, HSBC,
 Deutsche bank to specialized banks such as PBB and Berenberg

Their USPs:

- Excellent online, mobile and omni-channel user experiences
- Onboarding & Self-service process digitization increases efficiency
- Speedy time-to-market, one channel architecture of engagement platform

What they offer:

- Software: Omni-channel digital banking
- Full Service: end-to-end solutions incorporating digital strategies
- Flexibility: Academy/ Partner Ecosystem BaaS/ Cloud

What we like:

- Successful integration with SAP
- Competitors like PBB are also clients of Backbase

- Ecosystem facilitator financial institutions, but also essentially a SaaS provider for banks – direct competitor of Backbase
- Specialists in the areas of SME banking, loan origination and trade finance
- Clients are large banks such as ING, Societe Generale, UniCredit, Fintechs such as oney and insurances such as Allianz, Prudential and Swiss Life

Their USPs:

- Large domain expertise in R&D
- Excellent online, mobile and omni-channel user experiences
- Onboarding, self-administration process and increases efficiency
- BI-based intelligence helps to make better credit decisions

What they offer:

- · Software: multichannel banking
- Full Service: end-to-end solutions ranging from cloud to API components

What we like:

• User experience: support through whole lifecycle

DEMO SUMMARIES

Current status: NDA needs to be signed in order to progress



Current status: First intro done



- SaaS banking software based on micro services
- Clients include all large banks in France, their strategy is to buy small banks in Europe, e.g. Sparda bank, Fidor Solutions

Their USPs:

- Excellent online, mobile and omni-channel user experiences
- Flexibility: Sopra is able to integrate to multiple other providers and provides customized but also end-to-end solutions

What they offer:

- Their portfolio is based on micro services which can easily be integrate with outside service solutions (SAP), offer end-to-end solutions
- Little more retail focused but also did projects in real estate finance and shipping finance

What we like:

- That Sopra banking solutions can be fully customized and can easily be integrated with outside software solutions like SAP
- Salesperson Dieter Hoffmann, liked the idea of applying concepts of retail banking to commercial banking frontends

Notes:

 Sopra held talks with HCOB until 2020 about changing the deposit business to the cloud, talks ended due to disagreement on contract duration

- Encrypted chat software provider that uses APIs to automate and improve work processes for clients and employees
- Clients/users include Deutsche Bank (founding member), JP Morgan Chase, BNP Paribas, HSBC, Credit Suisse, Citibank, etc.

Their USPs:

- Safest chat software (not like Slack)
- Encryption key, but doesn't own chat

What they offer:

- Chat software that is encrypted and therefore the most secure option for companies (escpecially banks)
- Use of open APIs enabling a smooth integration with existing software of clients

What we like:

- Symphony does data aggregation
- Easily integrates with SAP because it uses open APIs

DEMO SUMMARIES

precision lender.
a Q2 company

Current status: NDA needs to be signed in order to progress

- Sales and negotiation platform provider
- Clients include Rabobank, First Midwest Bank, Woodforest bank

Their USPs:

- Big data asset: data is accumulated from working with (commercial) banks for >10years (but barely any EU data)
- More than 150 banks use the platform to price more than \$2tn in commercial transactions

What they offer:

- In Commercial lending they offer three products:
 - Loan: Improve borrower experiences at scale with automated, cloud-based lending.
 - Use of configurable, end-to-end loan servicing application
 - **Collection**: Maximize revenue with automated, agile, cloud-based collection processes
 - **Origination:** *Increase productivity and lower origination costs with auto-decisioning and compliance checklists*
- What we do not like:
 - Only have data for US companies

Current status: had one intro meeting, might introduce them to Donny

nıvaura

- Software provider that builds a digital and automated workflow tool that enable seamless flow of information and interaction between internal and external users
- Clients include the London Stock Exchange

What they offer:

- The company sells a part of software deployed on cloud or other software and provides the internal infrastructure for the bank, all integrated with an API
- Issuers, dealers and all transaction participants can execute deals with automated drafting of documents, lower manual touchpoints
- Nivaura partners with banks, isssuers, lawyers and other stakeholders to digitize and automaze capital market transactions

What we like:

- Their approach is to automate as much processes as possible
- They can extract structured data from pdf, word
- Have different access rights to make amendments
- · Make legal terms machine learned

COMMERCIAL BANKING FRONTEND COMPENDIUM MATRIX FORMAT

Institution	Commercial loans	Total loans	Screenshots?	Unique offerings
Standard Chartered	139B	288B	Yes	Dashboard view
Bank of America	499B	937B	Yes	CashPro Mobile App with API
Hamburg Commercial Bank	~30B	~30B	Yes	

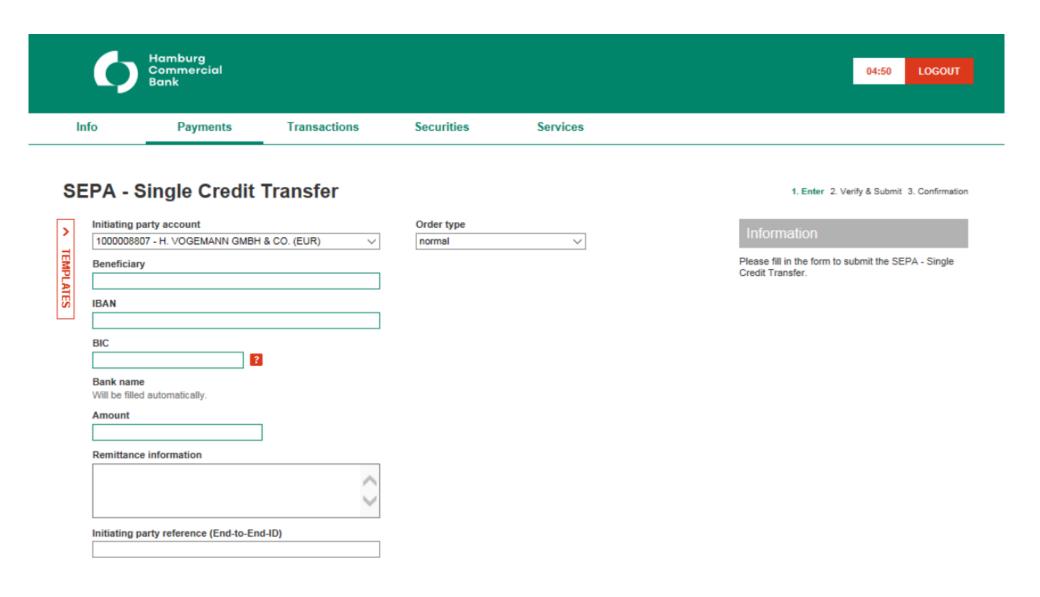
...etc

BACK UP

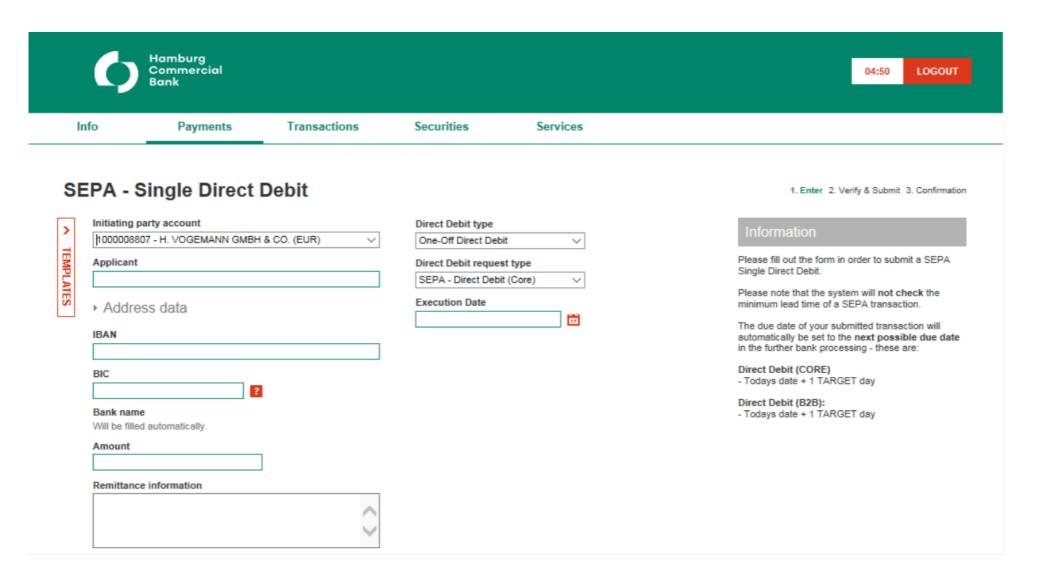
CATALOGUE - WHAT THE 40 LARGEST BANKS OFFER

	Mobile features	Desktop features	Other features we like
JP Morgan Chase	 Manage alerts and paperless statements Pay bills and transfer Make a deposit with Chase QuickDeposit See account balances and historical activity 	 Accounts Pay & transfer Collect & deposit Account management Security 	 All accounts from same bank / different bank at one glance Clear user- and permission administration Real-time alerts
Aareal		 Banking Mailbox Directory Administration Assignments Services 	 All accounts from same bank / different bank at one glance Clear user- and permission administration
Standard Chartered			 Print the records which are selected in pdf Export the list in xls/csv/pdf format Click on the payee name for details Delete the payment batch Alert approver as a notification Payee would be starred (mark/unmark favorite) Initiate payment

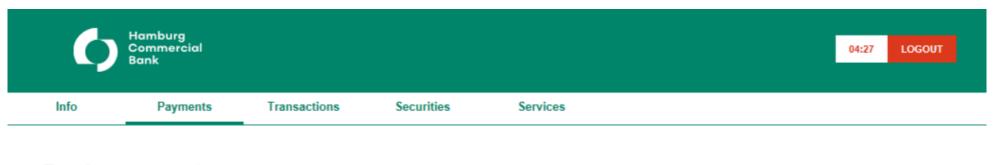
HCOB: SEPA - SINGLE CREDIT TRANSFER



HCOB: SEPA - SINGLE DIRECT DEBIT



HCOB: PAYMENTS/FOREIGN



Foreign payment

>

TEMPLATES

Initiating party

Ordering party account

1000008807 - H. VOGEMANN GMBH & CO. (EUR)

Name, First name / Company

H. VOGEMANN GMBH & CO.

Street / P.O. Box

Postal code, City

Beneficiary

Name, First name / Company

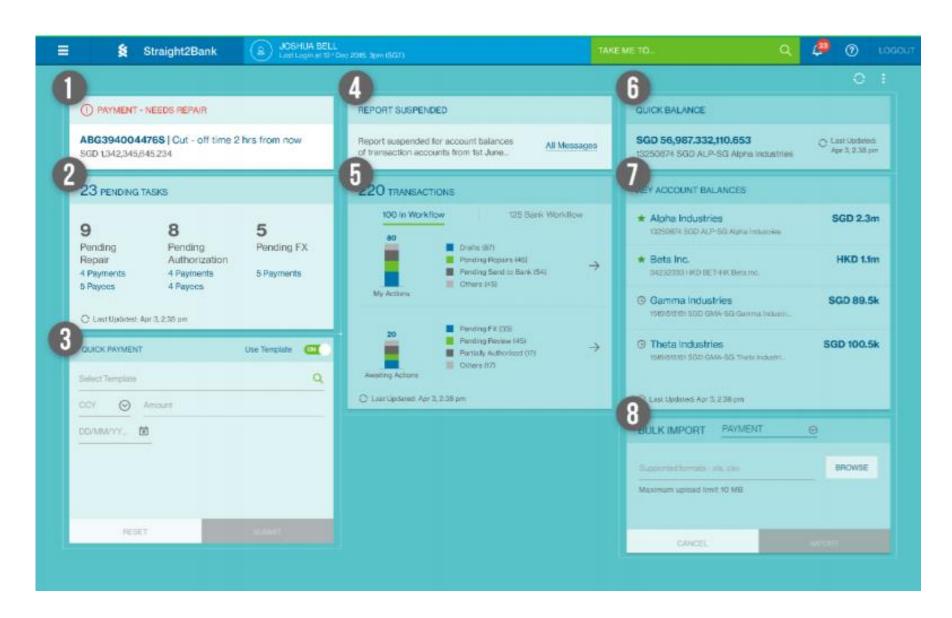
Street / P.O. Box

1. Enter 2. Verify & Submit 3. Confirmation

nformation

Please fill out the form to submit a foreign payment. First of all the payment type has to be chosen. Depending thereupon the input fields which are not admitted hereto will be deactivated.

STANDARD CHARTERED BANK (HKG) – DASHBOARD VIEW



DASHBOARD FEATURES

Individual Task Card	Display the tasks with highest priority in the user queue awaiting the user instruction.	① PAYMENT - NEEDS REPAIR	
		ABG394004476S Cut - off time 2 hrs from now SGD 1,342,345,645.234	
Pending Task Card	Highlight the total pending tasks for the user at that moment.	9 8 5 Pending Pending Repair Authorization 4 Payments 4 Payments 5 Payees 4 Payees 5	
Quick Payment Card	Make quick payments and complete the payments journey at a relatively shorter duration.	CUICK PAYMENT Use Template CCY Amount mm/dd/yyyyy	
Individual Message Card	Provide the details of the most recently received unread message in message center.	PAYMENT PARTIALLY AUTHORIZED TR23981020492 Transaction approve All Messages	
Transaction Status Card	Display the status of all transactions initiated by the group	220 TRANSACTIONS 100 In Workflow Drafts (87) Pending Repairs (45) Pending Send to Bank (54) Others (45) Pending FX (33) Pending FX (33) Pending Fx (34) Availing Actions	

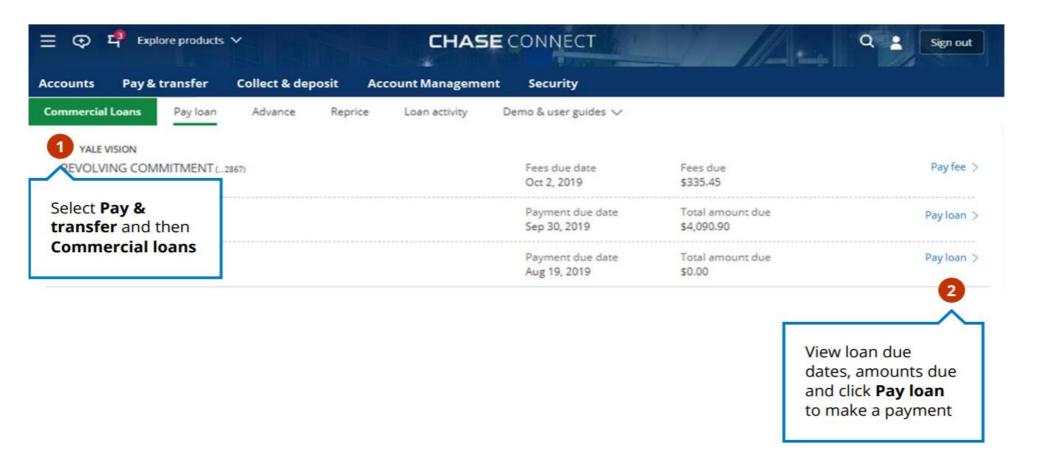
DASHBOARD FEATURES

Bulk Import Card	To import payments directly from the	BULK IMPORT Payments >	
•	dashboard using payments file	Filename.xls 400 KB	
		CANCEL IMPORT	
Quick Navigation Card	To quickly access screens and journeys within Straight2Bank.	QUICK NAVIGATION Create Payments Make a new domestic or international payment.	
		Create Payee Create a new beneficiary with details to receive payment	
		View Account Balance View balance and details of your account	
		Manage Reports View, schedule and run reports	
Key Account Balance Card	Provide the balances of accounts selected to be displayed here	★ Alpha Industries 13250874 SGD ALP-SG Alpha Industries SGD 1,400,000,000,000.00	
		★ Beta Inc. 34232333 HKD BET-HK Beta Inc. \$GD 1,400,000,000,000.00	
		G Gamma Industries 151515151 SGD GMA-SG Gamma Industries → SGD 1,400,000,000,000.00	
Quick Balance Card	Provide the user the latest balance of an account which is selected by user.	© Last Updated Apr 3, 238 pm View All → QUICK BALANCE	
		SGD 56,987.332,110.653 13250874 SGD ALP-SG Alpholaustries	
Account Position Card	Display the overall fund position of a group across all regions, countries, entities and currencies	Global - SGD 127.5m 12.3m 7.5m 6.9m Lurope Others	
		C Last Updated: Apr 3, 2.38 pm	

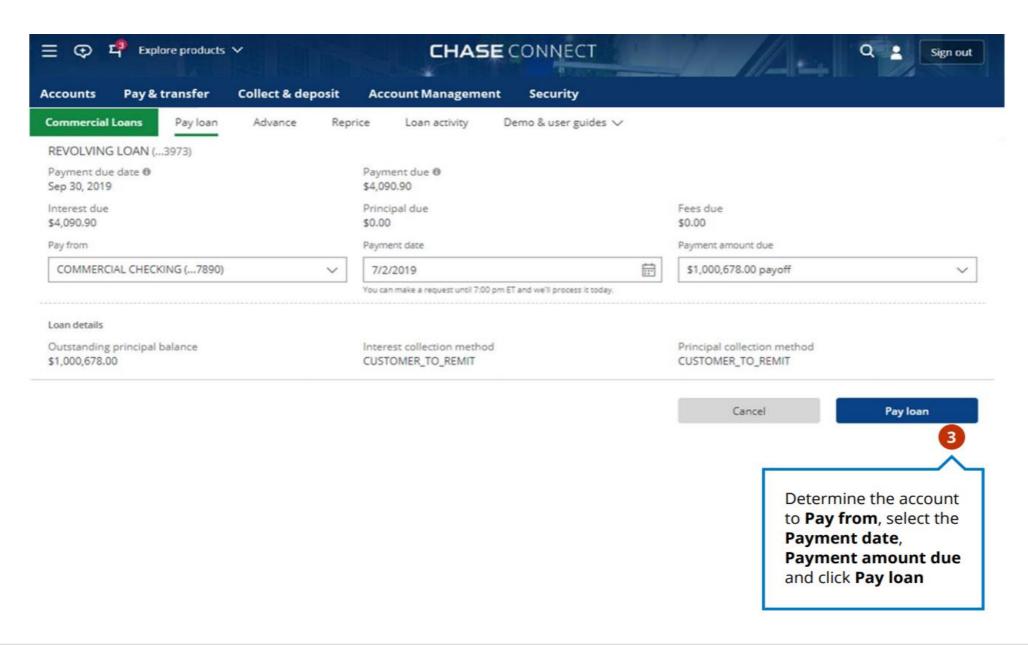
Source: Standard Chartered

CHASE CONNECT USER GUIDE - COMMERCIAL LOANS

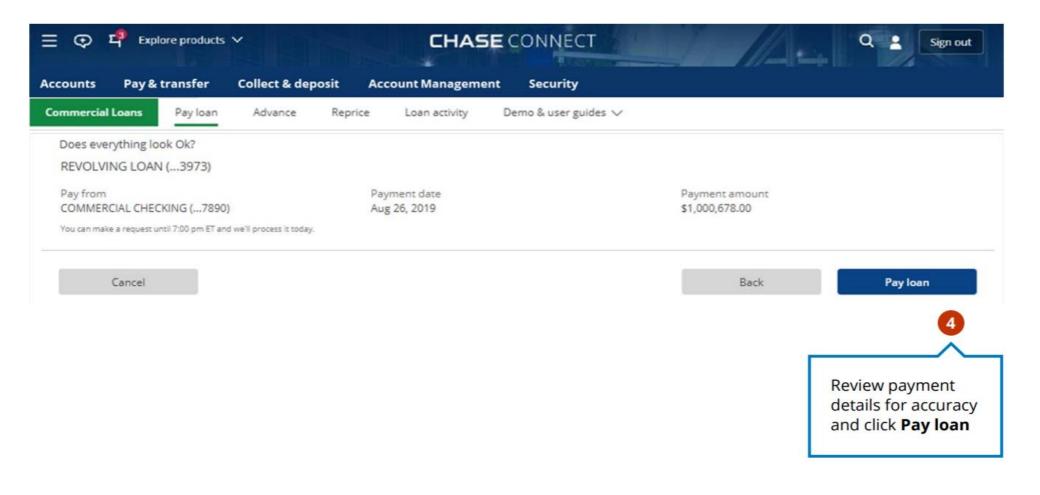
CHASE CONNECT – PAY LOAN STEPS 1-2



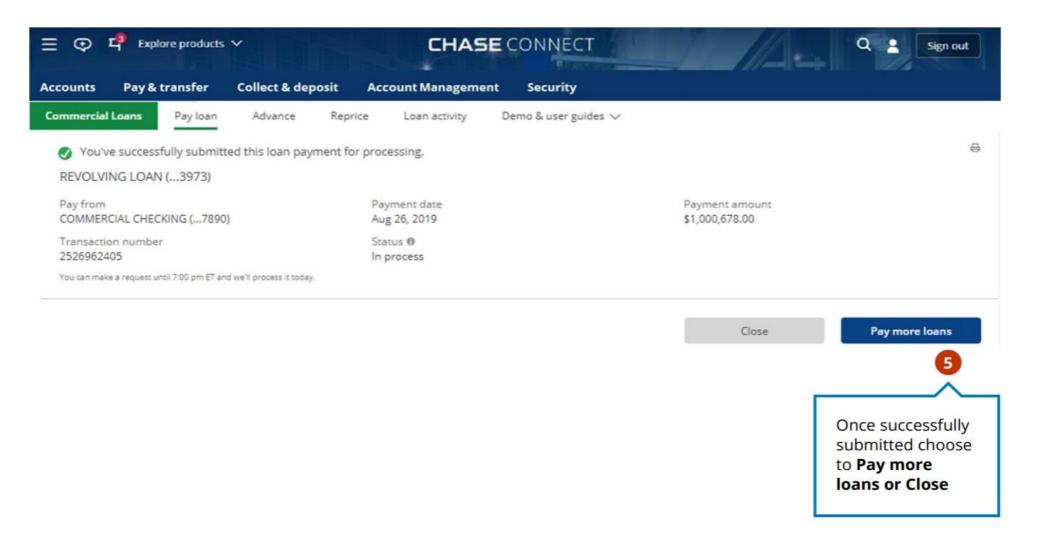
CHASE CONNECT – PAY LOAN STEP 3



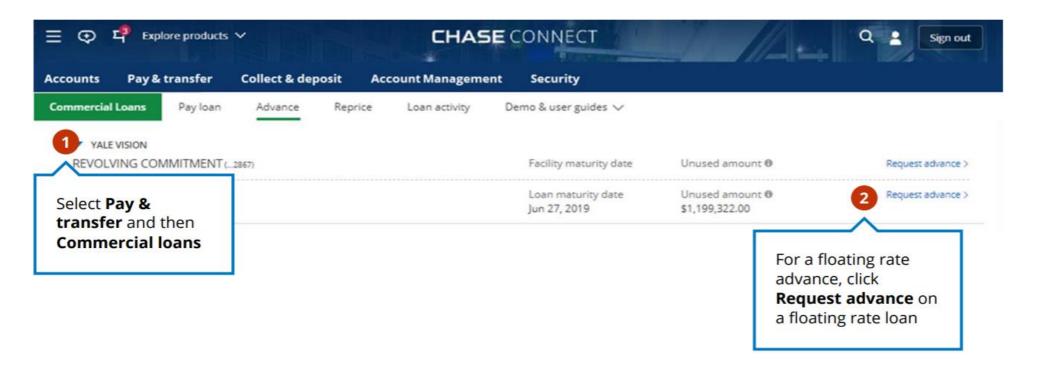
CHASE CONNECT – PAY LOAN STEP 4



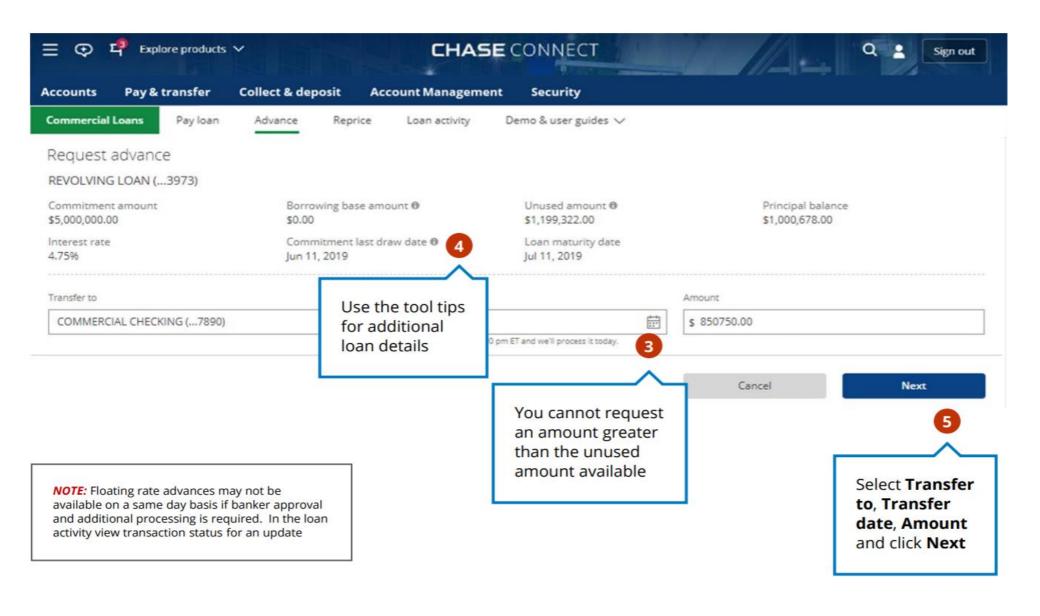
CHASE CONNECT – PAY LOAN STEP 5



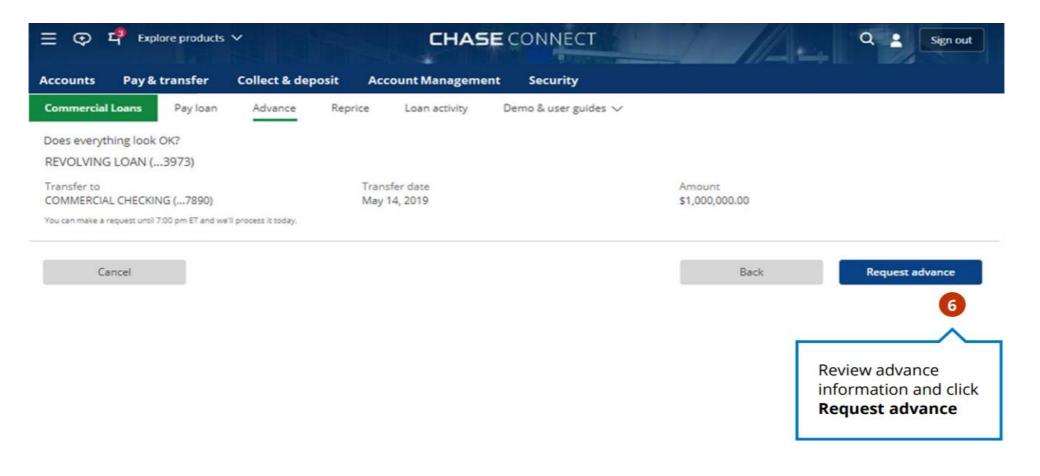
CHASE CONNECT – ADVANCE LOAN STEPS 1-2



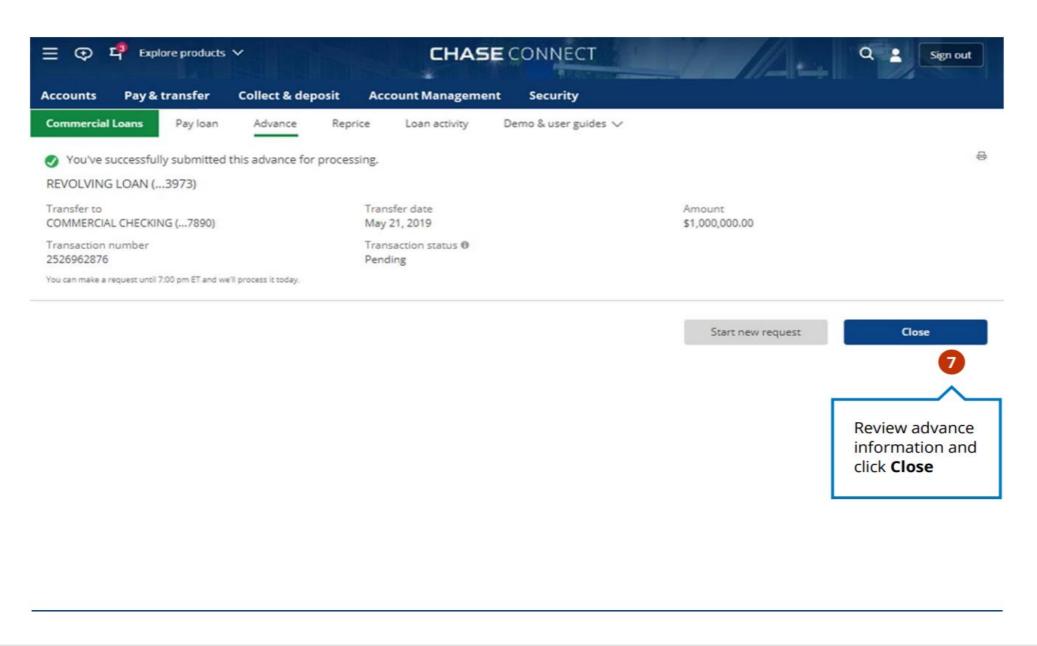
CHASE CONNECT – ADVANCE LOAN STEPS 3-5



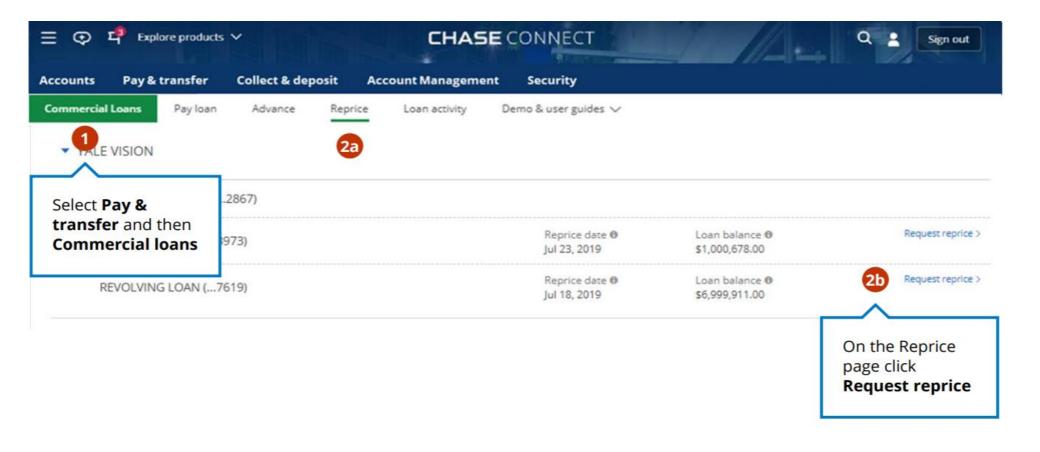
CHASE CONNECT – ADVANCE LOAN STEP 6



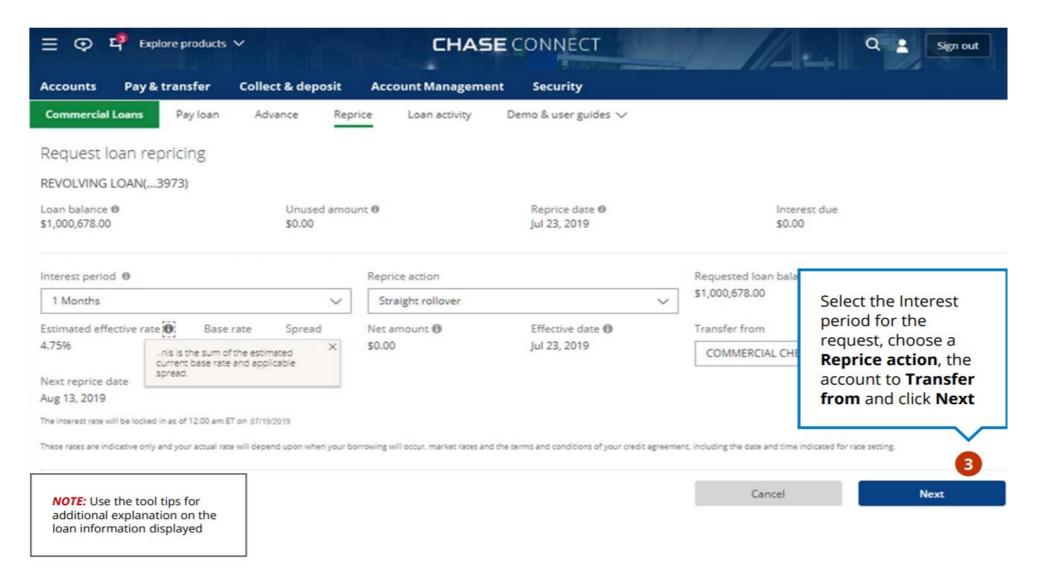
CHASE CONNECT – ADVANCE LOAN STEP 7



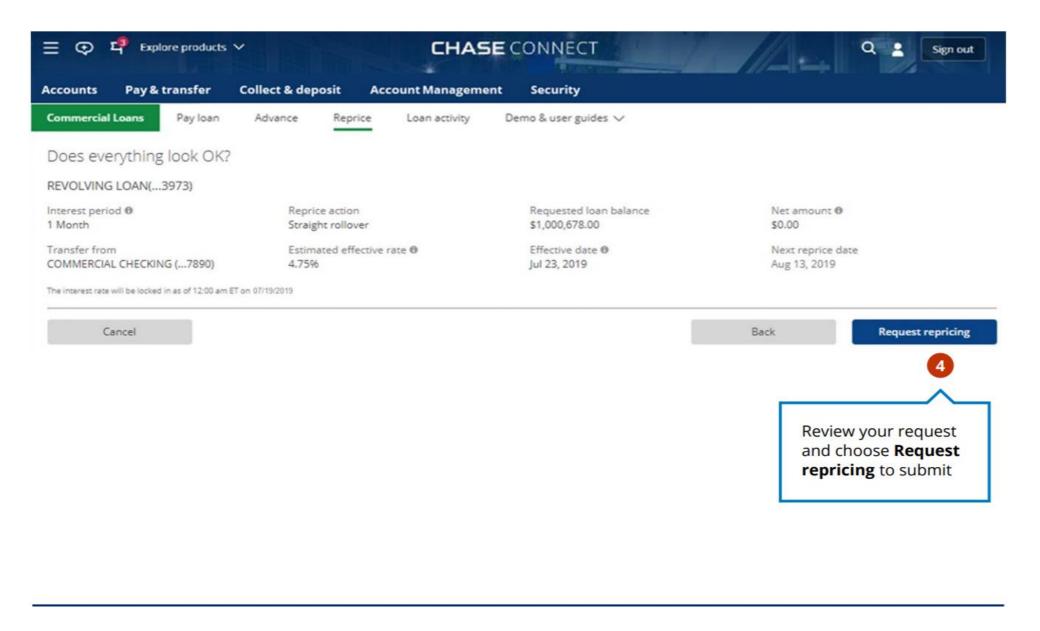
CHASE CONNECT – REPRICE LOAN STEPS 1-2B



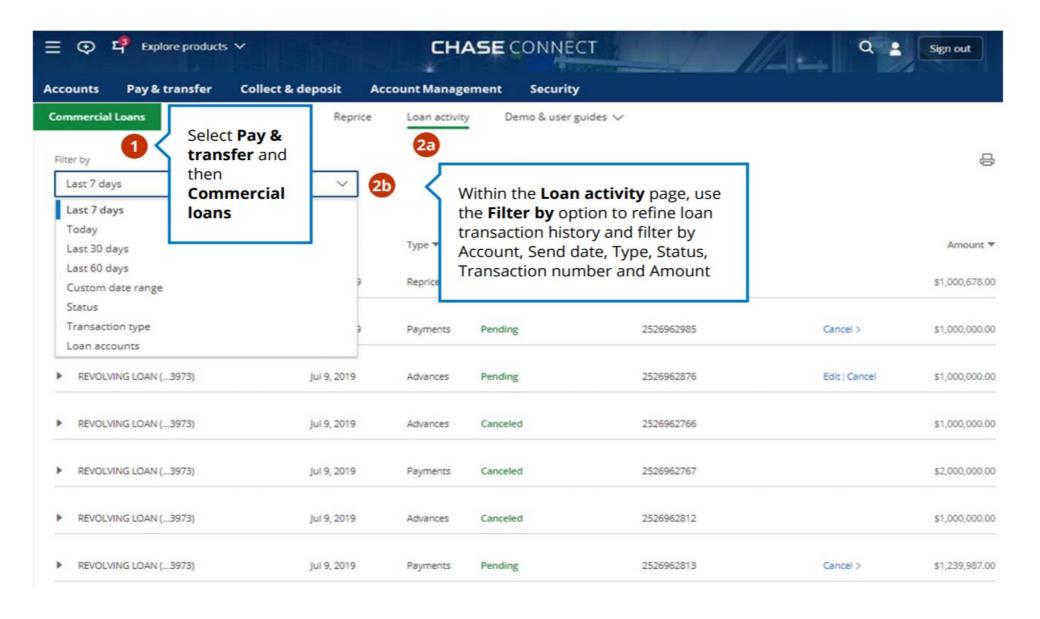
CHASE CONNECT – REPRICE LOAN STEP 3



CHASE CONNECT – REPRICE LOAN STEP 4



CHASE CONNECT – LOAN ACTIVITY STEPS 1-2B



CHASE CONNECT – LOAN ACTIVITY STEP 3

