Corporate-to-Bank Connectivity

The Data Behind Where We Are & Where We’re Going

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Today’s Presenters

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Strategic Treasurer

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Publications Manager
Strategic Treasurer

Craig Jeffery formed Strategic Treasurer LLC in 2004 to provide corporate, educational, and government entities direct access to comprehensive and current assistance with their treasury and financial process needs. His 20+ years of financial and treasury experience as a practitioner and as a consultant have uniquely qualified him to help organizations craft realistic goals and achieve significant benefits quickly.

Isaac Zaubi has been with Strategic Treasurer for over three years and served previously as a treasury analyst before coming into his current role as Publications Manager. Isaac’s primary responsibilities involve the creation and development of Strategic Treasurer’s digital and printed resources, including Analyst Reports, Survey Reports, Newsletters, eBooks, and other presentations. Isaac most recently obtained his CTP in January 2018.
Topics of Discussion

I. Connectivity Context

II. Bank Connectivity: Areas of Complexity

III. Bank Connectivity: Where We Are
   • Available Connectivity Options & Uses
   • Format Options & Uses
   • Analyzing Corporate Connectivity: Practices & Preferences

IV. Bank Connectivity: Where We’re Going
   • New Technologies & Services Emerge
   • Where are innovations occurring?
   • Corporate Preferences & Perspectives on New Services

V. Final Thoughts
## Areas of Complexity

### The Spectrum of Complexity

- Today, challenges to bank connectivity can arise through the use of multiple banks, currencies, systems, formats, and all manner of other instruments that are constantly evolving and changing.

- Global expansion or acquisition/merger activity can also escalate the level of complexity that treasury must deal with, especially if subsidiaries are utilizing their own technology solutions or are operating in entirely new world regions/countries.

### Complexity Considerations: Bank Connectivity

<table>
<thead>
<tr>
<th>Banks</th>
<th>Formats</th>
<th>Tech Systems</th>
<th>Connectivity</th>
<th>Globalization</th>
<th>Payment Types</th>
</tr>
</thead>
</table>
| As organizations spread globally, they typically must partner with more banks to service regions where current partners do not operate. | • MT (ISO 15022)  
• ISO 20022  
• Bank Proprietary  
• EDI  
• BAI  
• Other | • ERP (Or Multiple)  
• TMS (Or Multiple)  
• SCF Solution  
• FX Portal  
• Spreadsheets  
• Bank Connectivity  
• Risk Analysis  
• Market Data  
• Bank Portals | • Direct Connection (H2H)  
• SWIFT  
• EBICS  
• NACHA (ACH)  
• Bank Portal  
• TMS/Aggregator Connectivity  
• Other | • The number of countries operating in.  
• The number of currencies that payments are generated / received in  
• Diverse compliance requirements | • ACH  
• Wire  
• Check  
• Card  
• Pension  
• Bulk File  
• Vendor / Payroll  
• Other |
Areas of Complexity

Gauging Global Complexity

Our Company Operates in This Many Countries:

- 1 Country: 31%
- 2-5 Countries: 20%
- 6-20 Countries: 22%
- 21-50 Countries: 11%
- 51+ Countries: 15%

Which Regions Does Your Company Operate In?

- N. America: 91%
- W. Europe: 48%
- E. Europe: 31%
- APAC: 40%
- LATAM: 37%
- AFRICA: 22%
- MIDDLE EAST: 30%

Majority of respondents HQ'd in North America

2018 Strategic Treasurer, Bottomline Technologies, & Bank of America Merrill Lynch B2B Payments & WCM Strategies Survey
Areas of Complexity

**Currency / Bank Use & Payment Volumes**

- International business typically necessitates the use of multiple bank relationships for payment generation, as well as the use of multiple currencies.

- At the same time, with many corporates sending hundreds and even thousands of payments every day, the challenges involved with tracking the status of each transfer and updating cash positions can become significant.

- These layers of complexity serve as the core from which additional layers, such as format use and connectivity channels, extend.

**Corporates: How many banks / currencies do you regularly generate payments with?**

<table>
<thead>
<tr>
<th>Banks</th>
<th>Currencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1,000</td>
<td>28% 53%</td>
</tr>
<tr>
<td>1,000-100,000</td>
<td>43% 34%</td>
</tr>
<tr>
<td>100,000+</td>
<td>29% 13%</td>
</tr>
</tbody>
</table>

**Corporates: What is your approximate volume of payments generated globally per month?**

- ACH/Check/Wire
- Card

2018 Strategic Treasurer, Bottomline Technologies, & Bank of America Merrill Lynch B2B Payments & WCM Strategies Survey
Bank Connectivity: Where are we Currently

Corporate Payment Generation

TMS
Payment Generation

ERP
Payment Generation

AP System
Payment Generation

HUMAN RESOURCES
Payment Generation

Multiple Payment Originators

While treasury is responsible for generating many internal payments, there are other departments and systems from which funds transfers originate.

Generalist vs. Specialist

While some of the above functionalities can be performed in a TMS or ERP, adopting a specialized solution can provide additional visibility, security, and control to group-wide payments activity.

Connectivity Options

Depending on the corporate, bank relationships may span the entire globe or all be concentrated domestically. Either way, there are a broad range of connectivity options available.

Treasury Aggregator, Connectivity Solution

Sanctions Screening
Data Validation
Message Reformating
Payment Generation

Payment Generation

MT 101

PAIN 001

EDI 820

PAIN 001 / MT 101

EDI 820

Proprietary Format

Bank Networks / Partners

SWIFT

REGIONAL NETWORKS

DIRECT CONNECTIONS

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Bank Connectivity: Where are we Currently

System Integration

• One of the most challenging components of modern-day bank connectivity lies around system integration.

• There are a large number of financial systems in use by companies, and the systems and capabilities of banks can also vary widely.

• For this reason, developing a standard approach to connectivity is very difficult, especially when accounting for the various formats and payment types in use.

Corporates: For payments, how satisfied are you with the integration between your financial system(s) and the bank?

- Satisfied or very satisfied: 51%
- Neither satisfied or dissatisfied: 32%
- Dissatisfied or very dissatisfied: 18%

• As it stands currently, just over half of corporates are satisfied with the integration between their financial system(s) and their bank(s).

• Nearly 1/5th of corporates were dissatisfied, and 1/3rd were neutral.

• In evaluating overall corporate perspectives on bank services, system integration stands out as the main area for improvement.
**Bank Connectivity: Where are we Currently**

**Corporate Connectivity: Payment Processing**

- **ERP & Bank Portals**: The use of accounting systems (ERP) and bank portals are by far the most commonly utilized connectivity options.

- **Direct H2H**: For larger companies that generate high payment volumes through a single bank, direct (H2H) connections are also a common option.

- **SWIFT**: For multinational companies, the SWIFT network is the standard method for facilitating cross-border transfers.

**Corporates: How do you connect to your banks for payment processing? (Select all that apply)**

<table>
<thead>
<tr>
<th>Connectivity Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Via file transmission from our accounting system (ERP)</td>
<td>59%</td>
</tr>
<tr>
<td>Use of Bank Portals</td>
<td>59%</td>
</tr>
<tr>
<td>Direct (H2H) Connections</td>
<td>31%</td>
</tr>
<tr>
<td>Via SWIFT</td>
<td>20%</td>
</tr>
<tr>
<td>Other Networks / 3rd party companies</td>
<td>5-8%</td>
</tr>
</tbody>
</table>

*2018 Strategic Treasurer, Bottomline Technologies, & Bank of America Merrill Lynch B2B Payments & WCM Strategies Survey*
### Messaging Format Use

- The formats available today for payment generation and information reporting vary considerably.

- Common formats include SWIFT MT and ISO 20022 (XML) standards, as well as EDI/BAI and other bank proprietary formats.

- Maintaining compatibility with each of these format classes is often necessary to ensure that each business partner and bank can receive payment files.

- Given the broad range of formats in use, complications arising from format translation and conversion are common problems to encounter.

### Bank Format Offerings & Support: Information Reporting & Pmt. Generation

#### Information Reporting

<table>
<thead>
<tr>
<th>Format</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI2 (Prior Day)</td>
<td>81%</td>
</tr>
<tr>
<td>MT490</td>
<td>78%</td>
</tr>
<tr>
<td>ISO 20022: CAMT.053</td>
<td>54%</td>
</tr>
<tr>
<td>Bank Proprietary</td>
<td>57%</td>
</tr>
</tbody>
</table>

#### Payment Generation

<table>
<thead>
<tr>
<th>Format</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDI 820</td>
<td>68%</td>
</tr>
<tr>
<td>MT101</td>
<td>78%</td>
</tr>
<tr>
<td>ISO 20022: Pain 001</td>
<td>35%</td>
</tr>
<tr>
<td>NACHA (US)</td>
<td>73%</td>
</tr>
</tbody>
</table>

2016 Strategic Treasurer & Fides Global Payments Survey
Bank Connectivity: Where are we Currently

**Corporate Adoption: XML**

- Although the ISO 20022 messaging standards have been around for some time now, corporate adoption is still ongoing.

- In 2016, less than 1/3\textsuperscript{rd} of surveyed corporates were using ISO 20022 messaging for information reporting or payment generation.

- However, an additional 1/3\textsuperscript{rd} were planning to implement the standard within the next three years.

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**Corporates:** Our status for using XML (ISO 20022) for payments and information reporting is as follows: (From 2016)

- **Currently Use**
  - 31% currently use ISO 20022 standards
  - 2% plan to use ISO 20022 after 2019

- **Plan to Use Within 3 Years**
  - 32% plan to use ISO 20022 for information reporting or payment generation
  - 26% (2016–2019)

- **Plan to Use After 3 Years**
  - ~1/3\textsuperscript{rd} plan to use ISO 20022

- **Don’t Use, No Plans to Use**
  - 18% have no plans to use ISO 20022 for info reporting or payments
  - 18% (2016–2019)

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2016 Strategic Treasurer & Fides Global Payments Survey
Corporate Adoption:
Faster Payments Services & Tech

- Similar to ISO 20022 adoption, corporate use of various faster payments services and technology has been limited so far.

- On the top end, use/plans to use Same Day ACH stands at approximately 1/3rd of corporates, while RTP stood at 21%. Blockchain, however, was only 5%.

- As the majority of the survey population was concentrated in North America, use of foreign payment services (EBA, NPP, etc.) was reduced compared to U.S. faster payment services.

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Bank Connectivity: Where are we Going

Connectivity Innovations

Blockchain
- Speed
- Transparency
- Security & Control

SWIFT gpi
- X-Border Tracking
- Visibility
- Enriched Information

APIs
- System Integration
- Straight-Through-Processing
- Compatibility & Automation

Mobile Banking Apps
- Payment Generation
- Alerts & Notifications
- Status Updates & Reports

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Bank Connectivity: Where are we Going

Cross-Border Innovations & Information Enrichment

• While SWIFT has long been the dominant financial messaging network used for cross-border B2B transactions and wires, the correspondent banking model has become outdated as newer technologies and solutions are introduced to the landscape.

• Moving forward, SWIFT has pushed for adoption of ISO 20022 messaging standards and also released SWIFT gpi, a solution that provides greater transparency and information for payments during the clearing & settlement process.

Enriched Information vs. Speed.

Corporates: Which is more important for our inbound payments?

- More information for posting: 52%
- Faster Settlement: 36%
- Unsure: 12%

SWIFT Network: Challenges & Solutions

- Low visibility to status of payments en-route via SWIFT network:
  - SWIFT gpi provides functionality for tracking status of payments as they progress through the correspondent banking system.

- Original SWIFT MT standards have become outdated
  - SWIFT has championed the use of ISO 20022 messaging moving forward that offers enhanced data fields and remittance advices.

- Speed of SWIFT Network lags compared to newer models
  - SWIFT gpi boasts settlement times of minutes or even seconds for x-border transactions compared to days/weeks.

2017 Strategic Treasurer & TD Bank Treasury Perspectives Survey
PSD2, Open Banking, & The Role of APIs

• Many banks maintain siloed and legacy tech infrastructures that provide limited compatibility and integration with corporate systems.

• PSD2 is a regulation introduced in Europe that places mandatory requirements onto banks for modernizing their architecture and allowing for more flexibility, transparency, and compatibility with outside systems.

• This drive for “open banking” is being largely driven by adoption of standard APIs, or Application Programming Interface.
**Bank Connectivity: Where are we Going**

**APIs Trounce Blockchain on Current Relevance**

- Currently, both banks and corporates have indicated that APIs are of greater importance to payment operations than blockchain.

- Given prominence of PSD2 and widespread focus on APIs in the banking realm, there are more current benefits obtained through APIs than blockchain.

- Also notable was that over half the entire corporate survey population was unsure of which technology was more important.

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**Which is more important for our outbound payments?**

- APIs (Application programming interface)*: 39% (Corp), 66% (Bank)
- Blockchain*: 9% (Corp), 11% (Bank)
- Unsure: 52% (Corp), 24% (Bank)

*APIs saw 4x more importance by corporates and 6x by banks compared to blockchain

2017 Strategic Treasurer & TD Bank Treasury Perspectives Survey
Bank Connectivity: Where are we Going

Blockchain for Treasury

Regarding the potential use of blockchain for B2B payments: (Select all that apply)

- We actively monitor developments: 12%
- Currently Piloting or Testing: 3%
- Passively Monitoring Developments: 45%
- Don’t Know if we are doing anything: 13%
- Don’t Keep up With Blockchain: 21%
- Don’t Know What Blockchain is: 9%

Blockchain Transaction: How it Works

**Step 1:**
An electronic transaction is initiated between two or more parties.

**Step 2:**
The transaction is broadcasted to network of P2P computers (Nodes) that verify its authenticity.

**Step 3:**
Once approved, the transaction is added along with a list of other recent transactions to form a data “block”.

**Step 4:**
Once it reaches a certain size, this data block is added to the other previously created blocks to form a “chain” of blocks.
Bank Connectivity: Where are we Going

Corporate Mobile Banking Perspectives:
What functionality would you foresee using when it comes to your business payments? (Select all that apply) – Top 5:

- Receiving Alerts: 61%
- Expense Approval: 57%
- Approving Payments Individually: 47%
- Stopping Payments: 40%
- Exception Notifications: 41%

Corporates: Wary of Mobile Banking Applications
Please indicate your comfort level with mobile payments for B2B transactions. *Not showing “Unsure” responses.

- Uncomfortable: 32%
- Neither Comfortable or Uncomfortable: 33%
- Comfortable: 25%

Corporates: Mobile Perspectives Improving
Please indicate how your comfort level with mobile payments for B2B transactions has changed over the past year. *Not showing “Unsure” responses

- Declined / Declined Significantly: 7%
- Stayed about the same: 58%
- Improved or Improved Significantly: 29%

2018 Strategic Treasurer, Bottomline Technologies, & Bank of America Merrill Lynch B2B Payments & WCM Strategies Survey
Final Thoughts

Key Takeaways for Treasury:

Complexities Abound.
There are a broad range of complexities currently facing corporates in the connectivity realm. The current connectivity environment involves a diverse set of technologies, formats, and structures that make standardization and integration more difficult.

Tech Has Changed: Pay Attention.
New technologies and solutions are being introduced to the landscape that look to alleviate treasury’s challenges in these areas. Stay abreast of changes and how they could impact your processes / workflows.

Tech to Meet Efficiency & Control Requirements.
Moving forward, increased automation and standardization of connectivity solutions should continue to optimize treasury’s connectivity processes and streamline their operations for payments and information reporting. Innovations include new message formats, payment rails, and programming languages.
Extensive yet customizable benchmark reports to better understand the practices, plans, and strategies of your target market, competitors, peers, or clients.

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