The fourth quarter 2018 BPC meeting was held November 4, 2018 in Chicago at the AFP 2018 conference location. Guy Berg of the Federal Reserve Bank of Minneapolis opened the meeting and attendees introduced themselves.

Guy noted that the Fed is supporting B2B payment efficiency as part of the Strategy to Improve the US Payments System (SIPS) initiative. He thanked Dorothy Anderson and the Chicago Fed Industry Relations Team for their support and assistance raising awareness of BPC efforts. The work that is performed by BPC work groups receives high visibility within the Federal Reserve System, and the IRT is helping a lot with external messaging and website support.

**AP-AR Alignment and Remittance Data**

The meeting opened up with a discussion about the disconnect between accounts payable (AP) and accounts receivable (AR) systems. There is not alignment of incentives for product innovation to invest in better delivery and linking of electronic data for invoices and remittance information. Vendors offer solutions for similar problems on both sides, although in a different context and with different business processes. AP uses OCR to “read” invoices and AR uses similar technology to “read” remittance advices. Screen scraping from portals is very common on both sides. However, these solutions are costly bandaids and not addressing the core efficiency needs.

The current lack of solutions for linking payments to remittance data is a significant obstacle to expanding electronic payments. Many payees won’t accept ACH because they can’t apply payments due to detached or inadequate remittance, so corporates have to send checks. There are system limitations for remittance information on both the AP and AR side. The reality today is that most companies are not using ACH addendas to send remittance information. Participants in the meeting suggested that this is ultimately about the receivables side, clearing the invoice, and the solutions need to be driven by AR.

This is the elephant in the room, as it has been an issue for years. “The definition of insanity is doing the same thing over again and expecting a different outcome.” It’s time to consider addressing the remittance issue differently and approach it from a realistic perspective.

We need to look at the full supply chain. For small businesses, AR is a notebook in the back room. Remittance has to support small businesses. And how do we bridge cross border?

In Mexico, tax authorities are involved and there is a remittance standard and a common delivery mechanism that everyone uses. Providers are mandated to deliver free remittance services to small businesses. The remittance message is required to be consistent, but it might not get into the accounting software. For the US, involvement of tax authorities would be viewed as invasive.
Accounting Software

Accounting software comes into play. Software companies are not always partner-friendly. SAP and Oracle need to be at the table. ERPs only want to code to standards so establishing standards is the way to entice ERPs to implement solutions. ERPs have to tailor for different bank variants. There is also an issue with ERP versions. As it’s hard for corporates to upgrade, many versions are in use.

Many US companies are using structured remittance data for payments in other countries.

Message Standards and Delivery

We need a common definition of a structured message that remains consistent, a standard. In Mexico, the message standard is XML. The TCH STP 820 standard works for some. Pain001 doesn’t have much remittance information.

Participants indicated that there is a need for a delivery mechanism with access points (such as banks or SWIFT), along with translation services and data transformation. Corporations have made investments in their systems, which they don’t want to abandon.

At the October Federal Payments Improvement Forum, banks had differing opinions on whether the remittance information should be delivered with the payment. Banks need to implement system capabilities to support common standards and delivery. Often, the retail side of the bank can’t see the addenda. Banks upcharge for remittance data and frequently transform the data and don’t deliver it intact. First Tennessee Bank customizes the file form for clients, for a fee.

Some providers also believe that remittance doesn’t have to go through the banks. Health care uses the clearinghouse concept for remittance data. Some corporates want payments and remittance together, but people agree it isn’t a solution for all market segments.

Walker and Dunlop sends an ACH file with CTX addendas to their payment provider to send to the bank, and they also send an email to the payee. They do a lot of work to facilitate the process with their payees. Their software, MS Dynamics, is not “payments-friendly” and they had to buy bolt-ons.

Payment Types

There are other types of payments besides ACH payments that point to delivery outside of the payments network, corporation to corporation. Card payments are growing, and card systems do not send remittance data in the payment message. There needs to be multiple ways to send remittance.

The credit card companies need to be at the table. Next year Visa wants to engage in how to deliver remittance for virtual cards. They see revenue opportunity. Visa and MC help pay for development and integrations with accounting software that is currently closed. Comdata is one provider piloting a virtual lockbox for virtual cards. They work with many card types and portals, screen scraping from the portals, and then sending data to the corporation.

A third party could reassociate the remittance with the payment. In Mexico, this was a mandate.
Mandates and Security

The US won’t have a mandate. If there was a mandate, the corporates would complain but it would be a relief. Opt-ins don’t work. However, we can look at mandates in other parts of the world to see if we can use them to build off of standards that they establish.

People who want mandates need to lobby their congressman. This will not happen in cards.

Security is a consideration. There is a huge fear of hacking, with much money going to security and compliance. Can we find a way to ride the wave of security concerns to advocate for solutions? Security is an issue with remittance data going through email.

Relationship with Faster Payments

The TCH Real Time Payment (RTP) “Request for Payment” is a very trimmed down invoice, and RTP is not doing much with the remittance. They use ISO 20022. How do we help them be successful? There is competitive pressure to implement RTP, ride that wave.

For corporates, 25% said smart payments are more important than fast payments and 40% said they are equally important. Corporates need remittance data to apply the cash. This may be 5 years out, what can we do in the meantime? Blockchain isn’t there yet. Real time payments also work for intercompany settlements.

Payments can be 15 days faster with electronic invoicing. Companies also get better data, and transparency. The e-Invoicing work group is developing a semantics model for invoices. The BPC developed simple remittance data for remittance information.

At the AFP Treasury Advisory Group, corporates said they aren’t going to get money to implement faster payments given other high priority items.

Conclusion

There are a variety of dynamics to the remittance issue. There needs to be an independent delivery mechanism, especially globally.

Ultimately, it all comes down to adoption. To change behavior, there has to be financial incentive for both providers and corporates. Providers focus on revenue, and corporates want to reduce costs.

Guy Berg proposed an initiative for the BPC in 2019 to explore alternatives to remittance outside of the payment.

E-Invoicing

The BPC e-Invoicing project has a Semantics workgroup addressing e-Invoicing data. A semantic model defines what a term means so that with data, all parties understand what the data is and how to process it.
With standards work, you typically get 5 – 6 people to contribute. The number of vendors participating in the e-Invoicing work is very high, which is fantastic. The standards groups OASIS and X12 are looking at what we are doing. A positive development is that we are seeing some global alignment. The US could implement something very similar to what other parts of the world have already done.

Guy reviewed the e-Invoicing slides. For best in class invoice processing, quality structured data is a common denominator. With a semantics model, the underlying systems don’t have to change, you just have to do the mapping. A robust format is better. Integrators also need structured data.

Attendees said a semantics model is important. There are some industry developments where the model would be useful, for example in faster payments. The BPC work is lining up very nicely with other models in the world.

How do we get this out to corporates for thoughtful feedback? Jesus Pastran and Jaime Ryan offered to share the model with their customers or make introductions. Enlisting local AFP chapters is an option. AFP webinars with poll questions are also an option.

The industry needs to drive the effort. The Minneapolis Fed is facilitating and helping with documentation. The intent is for the BPC to publish the work group results so that other countries in the world know what we did and how we went about it. Countries around the world looked at the Catalog of Electronic Invoice Technical Standards that the BPC published a couple of years ago. We are hopeful that the assessment work with provide similar value to other countries consider adopting an electronic invoice delivery system.

**BPC Initiative Updates**

The ISO 20022 Capabilities work group will be soliciting submissions early in 2019. We encourage financial institutions, payment service providers, core system providers, and treasury management providers to submit their capabilities for publication. We ask that BPC members pass the information on to others in their organization that would complete and submit the form. Details will be forthcoming soon.

The e-Invoicing technical work group found no technical gaps for the US to adopt infrastructure being used in Europe and Australia, but the US will need a governance group to decide details. The Fed is looking at the amount of effort the European model would be for an access point to implement. We are hoping available tools in the market will make it easier.

Guy thanked attendees for their engagement and offering perspectives and opinions.
Business Payments Coalition
Fourth Quarter Meeting
November 4, 2018
At the AFP Annual Conference in Chicago
Business Payments Coalition Q4 Meeting

Agenda

Welcome and agenda review
AP-AR Alignment
Remittance Data Delivery
e-Invoicing Data
Updates on BPC Initiatives

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Business Alignment: Accounts Receivable and Accounts Payable
The data is there!

For greater B2B efficiency, accounts receivable and accounts payable alignment needs to improve

. . . it’s just not being delivered electronically in a common standard format

Efficiency in B2B payments means more than converting checks to electronic payments – it requires end-to-end automated processes throughout the chain

Automation is dependent on electronic data, starting with the invoice to be paid and ending with cash application

Accounts receivable and accounts payable management and systems must be aligned for mutual optimal outcomes
Accounts receivable and accounts payable experience many of the same issues at opposite ends of the chain.

Many invoicing solutions: efficient for the supplier but not the buyer.

Many remittance solutions: efficient for the payer but not the payee.

Current solutions largely rely on OCR to read text, rules and templates to parse data in emails, and screen-scraping to retrieve information from portals.
1. Do you see AP-AR alignment as essential for more efficient B2B processes? Why or why not?
2. How can service providers and FIs help with alignment?
3. What are the top priority areas for alignment?
4. What stakeholders should we engage, and what is the best way to reach them?
Remittance Information: Delivery of Structured Data
Remittance Data – Current State

Emails, proprietary networks and portals aren’t working for me

Quality electronic data is more important than speed of the payment

Don’t send me an ACH if you can’t include remittance data

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There were 3.3 billion business or government ACH payments in 2017. 32% were ACH debits where payment application details are known at the time of origination.

ACH Credits
- 5% were CTX payments, likely to contain remittance information in the addenda
- 38% used CCD+, capable of carrying limited remittance information
  - Many businesses don’t use this capability due to limitations in their systems or business preference
- 57% were CCD credits that have no remittance data

Top ways businesses receive remittance data
- 55% by email
- 22% by mail
- 18% by customer portal
- 18% by EDI or CTX/CCD
- 15% by fax

Source: AFP 2018 Electronic Payments Survey
• Payment and remittance delivery
  • Larger businesses – delivering remittance with the payment largely “works”
  • Need a different approach for smaller businesses
  • Some FIs don’t want to get in the middle with the remittance information; others think it’s important to keep the remittance with the payment

• Standards and format
  • Many variations of remittance standards
  • Accounting software needs to support the data format, or translate
  • Lack of standards for matching remittance data with payments

• Other considerations
  • Consider cost and convenience for small businesses; they act more like consumers for payments
  • Education and awareness; how do we talk differently about this now?
  • Alignment of AP, AR and software
Remittance Data – Discussion

The BPC wants to engage industry stakeholders to explore durable solutions

1. Does structured remittance data always need to travel with the payment? What are the ways financial institutions (FIs) and service providers can deliver remittance data? If separate from the payment, how can it be connected to the payment?

2. Do corporates want structured data with the payment or outside of the payment – assuming an easy way to link the payment and remittance information?

3. What are FIs and service providers doing to help with delivering remittance? Are FIs and service providers interested in delivering the remittance (both “from” and “to”)? What is the uptake by corporates?

4. How can FIs and service providers enable SMBs for structured electronic remittance data? What role can they play in this market segment?
e-Invoicing Data
Top 3 challenges facing AP organizations

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late supplier payments</td>
<td>29%</td>
</tr>
<tr>
<td>Lack of visibility into invoice and payment data</td>
<td>33%</td>
</tr>
<tr>
<td>High invoice processing costs</td>
<td>36%</td>
</tr>
<tr>
<td>Too much paper</td>
<td>38%</td>
</tr>
<tr>
<td>Invoice/payment approvals take too long</td>
<td>39%</td>
</tr>
<tr>
<td>High percentage of exceptions</td>
<td>41%</td>
</tr>
</tbody>
</table>

Source: Ardent Partners survey of 178 AP and finance leaders
Best in class AP invoice processing

“Best in class” is defined as the top 20% in processing cost and cycle time

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Best-in-Class</th>
<th>All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost to process a single invoice (all-inclusive cost)</td>
<td>$2.52</td>
<td>$14.38</td>
</tr>
<tr>
<td>Time to process a single invoice</td>
<td>3.1 days</td>
<td>10.6 days</td>
</tr>
<tr>
<td>Invoice exception rate</td>
<td>10.7%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Percentage of invoices processed “straight-through”</td>
<td>65.3%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Percentage of suppliers that submit invoices electronically</td>
<td>58.1%</td>
<td>20.2%</td>
</tr>
<tr>
<td>Percentage of invoices linked to a Purchase Order (PO)</td>
<td>73.3%</td>
<td>22.7%</td>
</tr>
</tbody>
</table>

A key differentiator is adoption of e-Invoicing
71% of best in class organizations use e-Invoicing vs. 38% of others

Source: Ardent Partners survey of 178 AP and finance leaders
Data Quality

Data quality is necessary to enable efficient electronic processes

- e-Invoicing needs the “right” data for straight-through and exception-free processing
- A semantics model helps bridge the differences between businesses

A robust e-Invoicing semantic model enables all parties to use the same set of data definitions for multiple businesses and industries

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Why Are Semantics Important?

In everyday life, words have different meanings

- Is a **bolt**: a fastener or lightning?
- Is a **draft**: cold air, a document version, or a military process?
- Is a **racket**: sports equipment or a loud chaotic noise?

*We determine the meaning by the context*

Some things have multiple names

- Is a **soft drink**: a soda or a pop?
- Is a **road**: a highway or a freeway?
- Is **footwear**: tennis shoes or sneakers?

*It depends on the customs or frame of reference of the speaker*

A semantic model defines what a term means so that with data, all parties understand what the data is and how to process it
Basics of the Semantic Model

• The semantic model defines
  – Parties and roles
  – Business terminology, data relationships and data types
  – Business functions, processes, and rules
    • Data to support a variety of processes, such as 3-way match
    • Rules to ensure data quality, for example, what data is required and detail has to add up to the total

• Systems using the model don’t have to translate data

What is an Invoice Number?

<table>
<thead>
<tr>
<th>SalesNum</th>
<th>ReferenceNum</th>
<th>InvoiceID</th>
<th>An invoice identifier for this document, assigned by the sender.</th>
</tr>
</thead>
<tbody>
<tr>
<td>InvoiceNum</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example Business Processes

- Invoicing of deliveries of goods and services against purchase orders
- Partial and final invoicing
- Payment in advance of delivery
- Credit notes or invoices with negative amounts
- Cancellation/correction of an invoice

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### Some sample data fields included in a core invoice semantic model

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Cardinality</th>
<th>Definition</th>
<th>Representation Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>1</td>
<td>An identifier for this document, assigned by the sender. (Invoice Number)</td>
<td>Identifier</td>
</tr>
<tr>
<td>IssueDate</td>
<td>1</td>
<td>The date, assigned by the sender, on which this document was issued. (Invoice Date)</td>
<td>Date</td>
</tr>
<tr>
<td>DueDate</td>
<td>0..1</td>
<td>The date on which Invoice is due</td>
<td>Date</td>
</tr>
<tr>
<td>InvoiceTypeCode</td>
<td>0..1</td>
<td>A code signifying the type of the Invoice</td>
<td>Code</td>
</tr>
<tr>
<td>Note</td>
<td>0..n</td>
<td>Free-form text pertinent to this document, conveying information that is not contained explicitly in other structures</td>
<td>Text</td>
</tr>
<tr>
<td>BuyerReference</td>
<td>0..1</td>
<td>A reference provided by the buyer used for internal routing of the document</td>
<td>Text</td>
</tr>
<tr>
<td>InvoicePeriod</td>
<td>0..n</td>
<td>A period to which the Invoice applies.</td>
<td>Period</td>
</tr>
<tr>
<td>OrderReference</td>
<td>0..1</td>
<td>A reference to the Order with which this Invoice is associated</td>
<td>Order Reference</td>
</tr>
<tr>
<td>AdditionalDocumentReference</td>
<td>0..n</td>
<td>A reference to an additional document associated with this document.</td>
<td>Document Reference</td>
</tr>
<tr>
<td>PayeeParty</td>
<td>0..1</td>
<td>The payee</td>
<td>Party</td>
</tr>
<tr>
<td>BuyerCustomerParty</td>
<td>0..1</td>
<td>The buyer</td>
<td>Customer Party</td>
</tr>
<tr>
<td>SellerSupplierParty</td>
<td>0..1</td>
<td>The seller</td>
<td>Supplier Party</td>
</tr>
<tr>
<td>PaymentTerms</td>
<td>0..n</td>
<td>A set of payment terms associated with this document</td>
<td>Payment Terms</td>
</tr>
<tr>
<td>PrepaidPayment</td>
<td>0..n</td>
<td>A prepaid payment</td>
<td>Payment</td>
</tr>
<tr>
<td>TaxTotal</td>
<td>0..n</td>
<td>The total amount of a specific type of tax</td>
<td>Tax Total</td>
</tr>
<tr>
<td>LegalMonetaryTotal</td>
<td>1</td>
<td>The total amount payable on the Invoice, including Allowances, Charges, and Taxes</td>
<td>Monetary Total</td>
</tr>
<tr>
<td>InvoiceLine</td>
<td>1..n</td>
<td>A line describing an invoice item</td>
<td>Invoice Line</td>
</tr>
</tbody>
</table>
Semantics, Data Quality and Processes

Semantics is foundational to good data quality and better processes

Misalignment of data occurs when parties have a different understanding of what the data is

- Causes exceptions and prevents straight-through-processing
- Can result in billing errors and delayed payments
- Increases operational costs

Semantics are relevant to all aspects of electronic invoicing, regardless of the delivery and format

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The BPC e-Invoicing Semantics work group is looking at a semantic model for invoices in the US

- Analyzed established models in the EU and Australia to determine if those models have any gaps for usage in the US
  - Primary gap identified is in the area of taxes – other countries have VAT tax in the model. Sales and use tax is important for the US.
- Created a preliminary “straw man” semantic model from the analysis
  - Validating the model with the corporates and service providers: does it work for them?
  - Does the model cover all relevant business processes?
- Will publish work group results
Discussion

1. Can you help us recruit people to validate the model?
2. Will a semantic model help with AP and AR alignment?
3. Do you (or your clients) have a data governance program in place?
4. Do you (or your clients) understand your costs of invoicing today?
5. Would there be value in developing basic business case models?
E-Invoicing Updates

The e-Invoicing Technical workgroup concluded that technical gaps do not exist vs. the European and Australian models studied

- There are several technology options. Decisions would need to be made by a governance body
- Continue to assess tools available to develop a delivery framework

Takeaways from meetings in Europe

- The X12 international standards organization is following the BPC e-Invoicing work
  - X12 is looking for a standard data and semantics model
  - They are also interested in the UBL XML syntax for invoices for greater interoperability
- International interest in how current global frameworks can interoperate with each other for delivery and semantics
- Valuable alignment momentum of BPC work with other international organizations
# BPC Initiative Updates

<table>
<thead>
<tr>
<th>ISO 20022 Capabilities</th>
<th>Simple Remittance Data</th>
<th>SMB Accounting APIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop an online directory US banks and service providers that have ISO 20022 capabilities for payment and cash management operations as a resource to corporate practitioners</td>
<td>Define data needs for simple remittances that can be easily adopted by SMBs. Identify minimal remittance information needed for payment application and reconciliation.</td>
<td>Gather, compile and publish a list of APIs that can be used with SMB accounting software to automate electronic payment initiation and cash application to receivables</td>
</tr>
<tr>
<td>Submission forms and process under development</td>
<td>Paper published: see BPC website</td>
<td>Analysis of research results underway</td>
</tr>
<tr>
<td>Target to solicit submissions Q4</td>
<td>Publicity underway</td>
<td>Target to publish by the end of 2018</td>
</tr>
</tbody>
</table>

The ISO 20022 Capabilities group encourages banks, service providers and TMS providers to submit their ISO 20022 capabilities for publication. This is a free BPC service.
The Business Payments Coalition is a volunteer group of organizations and individuals working together to promote greater adoption of electronic business-to-business (B2B) payments, remittance data and invoices. The Coalition’s overarching goal is to make B2B payments more efficient across the end-to-end process, that is, to achieve straight-through-processing across both the procure-to-pay and order-to-cash cycles.

There is no cost to join or to participate in Coalition efforts.

Contact us: Business.payments.smb@mpls.frb.org

https://fedpaymentsimprovement.org/payments-efficiency/business-payments-coalition/