### Introduction

**GOAL**
Introduce the ISO 20022 adoption effort for high-value payments along with some detail of the approach to code implementation, client migration and a preview of the first collection of ISO 20022 formatted CHIPS messages.

**OBJECTIVE**
By the end of this session, you should be able to:
- Understand the background of the ISO 20022 adoption effort
- Understand TCH’s Implementation and Migration Approach and how it will impact you
- Gain a basic understanding of how CHIPS Legacy messages will be converted to ISO 20022 format
- Understand how to access and navigate in SWIFT MyStandards Portal
- Know what you need to do to be prepared.

**INTENDED AUDIENCE**
CHIPS Participant Bank personnel and Vendors charged with the ISO 20022 migration effort and implementation of the new messages – Product Management, Operations and Technical staff, Risk, Legal teams and those interested in learning about the ISO 20022 effort.
## Topics

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ISO 20022 Background

Market Overview

• Globally, many Market Infrastructures have or are in the process of converting to ISO 20022. The U.S. operators want to continue to remain relevant and contribute to global interoperability with the other payment systems.

• The complexity of the payment system, involving incumbent providers, new entrants, and end users, makes it challenging to coordinate payment innovations.

Opportunity

• Payment infrastructure in the U.S. has struggled to keep up while developments in other countries have taken steps to modernize their payment systems

• In 2013, The Federal Reserve solicited input from the U.S. Payment Industry by proposing five desired outcomes to be achieved by addressing specific gaps and opportunities.

• These were outlined in: Payment System Improvement Public Consultation Paper
ISO 20022 Background

Solution

• In 2015, the Federal Reserve refined the desired outcomes based on feedback and published Strategies for Improving the U.S. Payment System

• Adoption of ISO 20022 is in support of Strategy 4, which is to “achieve greater end-to-end efficiency for domestic and cross-border payments”

Benefits

• ISO 20022 messages can contain an extensive amount of information and are based on a common data dictionary that can support end-to-end payment messages flows. Some highlighted benefits of the format are:
  
  – Meeting evolving requirements to screen payments for sanctions and AML purposes
  
  – Improving interoperability with domestic and cross-border payment and message systems
  
  – Reducing operating costs for banks and their customers by reducing the need to map payment information from one message format to another” which in turn “could improve the efficiency of end-to-end processing of multi-leg domestic and international funds transfers”
  
  – Allowing banks to provide useful services to their customers, such as the ability to ensure end-to-end flow of extended remittance information in payment messages
  
  – Improving straight-through processing
Industry Participation and Collaboration with the Federal Reserve

- TCH is an active participant on the Format Advisory Group, HVPS+, HVPSO and other industry forums and is aligned with the FRB strategy to adopt ISO 20022 message format.
  - The Format Advisory Group was engaged by both TCH and the FRB as industry participants and SME's to help define ISO 20022 payment message format requirements.

- TCH and the Federal Reserve Wholesale Product Office have worked together to align code implementation dates and are giving consideration of client migration schedules to roll-out ISO 20022 in three phases

- CHIPS and Fedwire have strong similarities in payment message format specs, with flexibility to allow for proprietary differences
CHIPS’ Approach to the ISO 20022 Effort

ISO 20022 Technical Deployment and Client Migration Approach

• All Payment related messages will be converted to their ISO 20022 equivalent messages. These include Payment Messages sent and received along with their responses, retrievals and payment status updates (e.g. delete requests and resolver notifications). In addition, liquidity related messages to withdraw and reserve supplemental funds will also be converted.
  – The reports and enquiry messages are not being converted at this time.

• Production technical deployment will occur in three phases (first, modifications to Legacy CHIPS, secondly, deployment ISO 20022 code which replaces Legacy, and lastly, enhancement of the ISO 20022 code).

• During Phase 2, clients will be migrated from Legacy CHIPS to ISO 20022 in waves at which time they must be able to send and receive the new ISO 20022 format.

• Fedwire and CHIPS working closely in coordinating client migrations.

• The Clearing House will be translating to/from CHIPS legacy format and the ISO 20022 format during this interim period.
  – Throughout this transition process, ISO 20022 specs will be updated based on the current annual ISO 20022 updates.

Phase 1
ISO 20022 Readiness

Phase 2
Like-for-Like

Phase 3
Enhanced
# CHIPS ISO 20022 Program Key Dates

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>Targeted Implementation Guide “Lock down”</th>
<th>Targeted Bank Testing</th>
<th>Targeted Live Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHASE 1 READINESS</strong></td>
<td>Updates to CHIPS legacy format to ease transition to the first deployment of the CHIPS ISO 20022 format.</td>
<td>March 2019 (Circulated via CHIPS Operations Bulletin and upon request – beginning of April)</td>
<td>November 2019</td>
<td>November 2020</td>
</tr>
<tr>
<td><strong>PHASE 2 ISO 20022 IMPLEMENTATION</strong></td>
<td>Legacy CHIPS format will be replaced by ISO 20022-formatted messages that have comparable elements and character lengths to CHIPS format (a.k.a. like-for-like). Banks to migrate to ISO 20022 in waves and TCH to provide a translation utility to reduce interoperability between CHIPS legacy and CHIPS ISO 20022 banks.</td>
<td>September 2020 (Phase 2 MUGs December 2018 version posted to SWIFT MyStandards)</td>
<td>April 2021</td>
<td>March 2022</td>
</tr>
<tr>
<td><strong>PHASE 3 ISO 20022 ENHANCED</strong></td>
<td>Enhancement of ISO 20022 formats (e.g. new party elements: ultimate debtor, ultimate creditor, new CHIPS feature enhancements.</td>
<td>March 2022</td>
<td>June 2022</td>
<td>November 2023</td>
</tr>
</tbody>
</table>

Dates aligned with plan as of: 3.19.19 (recent updates: TBD for Bank Testing updated to June 2022). Please contact erin.moore@theclearinghouse.org or robert.pepitone@theclearinghouse.org to be included on Phase 1-related Communications.
CHIPS’ Approach to the ISO 20022 Effort

Bank Testing

Phase 1 ISO 20022 Readiness Bank Test Environment

During Weekdays:
• Testing will alternate between current production and ISO 20022 Readiness testing.
• The number of ISO 20022 Readiness testing days per week will increase as implementation date approaches.

On Saturdays:
• Testing will alternate between Phase 1 ISO 20022 Readiness Release and current production.

Phase 2 Like-for-Like Bank Test Environment

During Weekdays:
• Testing will alternate between current production and ISO 20022 testing.
• Number of ISO 20022 phase 2 testing days per week will increase as implementation date approaches.

On Saturdays:
• Testing will alternate between Phase 2 Like-for-Like Release and current production.
# Phase 2 – Like-for-Like Collection Inventory

<table>
<thead>
<tr>
<th>ISO Message</th>
<th>To/From CHIPS</th>
<th>Description for Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>pacs.009</td>
<td>(to/from CHIPS)</td>
<td>Payment Message to CHIPS / Receive Notification from CHIPS - (Bank)</td>
</tr>
<tr>
<td>pacs.008</td>
<td>(to/from CHIPS)</td>
<td>Payment Message to CHIPS / Receive Notification from CHIPS - (Non-bank)</td>
</tr>
<tr>
<td>pacs.004</td>
<td>(to/from CHIPS)</td>
<td>Return of Funds Payment Messages to CHIPS / Receive Notification from CHIPS</td>
</tr>
<tr>
<td>pacs.002</td>
<td>(from CHIPS)</td>
<td>Payment Message Store Response and the Resolver Notification.</td>
</tr>
<tr>
<td>camt.056</td>
<td>(to CHIPS)</td>
<td>Delete Payment Request to CHIPS</td>
</tr>
<tr>
<td>camt.007</td>
<td>(to CHIPS)</td>
<td>Modify Preference Request to CHIPS</td>
</tr>
<tr>
<td>camt.029</td>
<td>(from CHIPS)</td>
<td>Response to Delete Payment from CHIPS / Response to Modify Preference Request from CHIPS</td>
</tr>
<tr>
<td>camt.050</td>
<td>(to CHIPS)</td>
<td>Supplemental Funds Withdrawal Requests AND Reserve Supplemental Funds Requests</td>
</tr>
<tr>
<td>pacs.002</td>
<td>(from CHIPS)</td>
<td>Response to Supplemental Withdraw Request AND Supplemental Funds Request</td>
</tr>
<tr>
<td>admi.006</td>
<td>(to CHIPS)</td>
<td>Retrieval Requests: Payment Message Retrieval, Receive Retrieval, Payment Resolver Retrieval to CHIPS</td>
</tr>
<tr>
<td>admi.002</td>
<td>(from CHIPS)</td>
<td>Invalid Retrieval Response</td>
</tr>
</tbody>
</table>

A Business Application Header will accompany every message.
## Phase 2 – Like-for-Like Collection Inventory

### Names of MUGs and their Desc

<table>
<thead>
<tr>
<th>Message Guideline Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>FIToFICustomerCreditTransferV07_pacs.008.001.07_From_CHIPS</code></td>
<td>This version of the <code>FinancialInstitutionToFinancialInstitutionCustomerCreditTransfer</code> message is sent by CHIPS and is equivalent to the CHIPS Receive Notification when the value of the Ultimate Beneficiary is 'N' for Non Bank. The associated Business Application Header's BusinessService will contain the Response Code Value of 31 (RC31) for Receive Notification.</td>
</tr>
<tr>
<td><code>FIToFICustomerCreditTransferV07_pacs.008.001.07_To_CHIPS</code></td>
<td>This version of the <code>FinancialInstitutionToFinancialInstitutionCustomerCreditTransfer</code> message is sent by a CHIPS Participant and is equivalent to the CHIPS Payment Message when the value of the Ultimate Beneficiary is 'N' for Non Bank. The associated Business Application Header's BusinessService must contain the Transaction Code Value of 10 (TC10) for Payment Message.</td>
</tr>
</tbody>
</table>

If you would like a copy of all MUGs and their descriptions, please contact [erin.moore@thecleringhouse.org](mailto:erin.moore@thecleringhouse.org)
# Introduction to ISO 20022 Terms and Messages

## Messages

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Message Number</th>
<th>Variant</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acronym for one of 20 business areas (PAIN, PACS, CAMT, ADMI, etc.)</td>
<td>• Code allocated to a specific message in a business area (008, 009, etc.)</td>
<td>• A simplified version of a “global” message; subset of elements/attributes derived from a “global” message</td>
<td>• Different versions cater for changes or modifications to the message, e.g. an element is dropped, added, or its name is changed</td>
</tr>
<tr>
<td>• pacs = payments clearing and settlement</td>
<td>• pacs.008 = payments clearing and settlement FIToFICustomerCreditTransfer</td>
<td>• A particular submission process needs to be followed before a variant can be created</td>
<td></td>
</tr>
</tbody>
</table>

### Business Application Header (head.001.001.01)

- Follows same naming convention as the message identifiers
- Required for all messages
- Carries processing information
Scenario 1: End-to-end Customer Payment Message Flow

1. Payment Message (Tran Code = 10) / pacs.008

   OR

3. Payment Resolver Notification (RELEASED, Resp Code =38) / pacs.002 with Status Code (ACSC)

3. Receive Notification (Resp Code = 31) / pacs.008

- This is a Payment Message (beneficiary type Non-bank) depicting the Payment Message Stored Response or Payment Message System Cancelled Response from CHIPS
- Upon release of the Payment Message, CHIPS sends a Payment Resolver Notification (indicating a released status) to the Sender Participant A
- CHIPS simultaneously creates a new message, Receive Notification, to the Receiver Participant B.

Note: Notifications at arrow 3 will only be performed when a payment is Released. If a payment is deleted, refer to message flow for Delete Payment Message
## Scenario 1: Customer Payment

<table>
<thead>
<tr>
<th>Customer Payment</th>
<th>ISO 20022 Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TCH Proprietary</strong></td>
<td></td>
</tr>
<tr>
<td>• Payment Message (Tran Code = 10)</td>
<td>• FI To FI Customer Credit Transfer - <strong>pacs.008</strong></td>
</tr>
<tr>
<td>• Payment Message Stored Response</td>
<td>• FI To FI Payment Status Report - <strong>pacs.002</strong> (Status Code : PDNG)</td>
</tr>
<tr>
<td>(Resp Code = 25)</td>
<td>OR</td>
</tr>
<tr>
<td>• Payment Message System Cancelled</td>
<td>• FI To FI Payment Status Report - <strong>pacs.002</strong> (Status Code : RJCT)</td>
</tr>
<tr>
<td>Response (Resp Code = 25)</td>
<td></td>
</tr>
<tr>
<td>• Payment Resolver Notification</td>
<td>• FI To FI Payment Status Report - <strong>pacs.002</strong> (Status Code : ACSC)</td>
</tr>
<tr>
<td>(RELEASED, Resp Code =38)</td>
<td></td>
</tr>
<tr>
<td>• Receive Notification</td>
<td>• FI To FI Customer Credit Transfer - <strong>pacs.008</strong></td>
</tr>
<tr>
<td>(Resp Code = 31)</td>
<td></td>
</tr>
</tbody>
</table>
Terminology for Parties and Financial Institutions

Parties in an end-to-end chain of an FI to FI Customer Credit Transfer – pacs.008 (big change for Phase 3)

- Ultimate Debtor
- Forwarding Agent
- Debit Agent
- Initiating Party
- Instructing Agent
- Intermediary Agents
- Reimbursement Agents
- Creditor Agent
- Ultimate Creditor
SWIFT My Standards Portal Overview

Once you are logged in, scroll down under Products and look for “MyStandards”
Helpful Features:

- Application help
- My Profile > Groups to which I have access
- Groups > Allows you to toggle between groups you are assigned
- Business Domains > Most widely adopted across the MT and ISO 20022 standards. Not an exhaustive list (also trade services, FX, cards)
- Standards Releases > MT Standards, ISO 20022 Standards, and Base Libraries
- TCH message flows and supporting documentation
The Clearing House is using the SWIFT MyStandards Portal to store and publish its ISO 20022 Message Usage Guidelines and supporting documentation:

- Message Usage Guidelines
- CHIPS Enhancement Rules for Sending and Receiving Parties
- CHIPS Identifications Handling
- CHIPS Messages Flows
SWIFT My Standards Portal Overview

Final_TCH_Funds_January 2018  
Technical version: v.12 imported

- CHIPS Enrichment Rules for Sending and Receiving
- CHIPS Identifications Handling_Final_January200...
- CHIPS Message Flows_Final_January 2018.pptx

- Usage Guidelines
- Technical Versions

Final_TCH_Funds_January 2018_BusinessApplicationHeaderV01_head.001.001.01
Inbound_L4L_TCH_FIToFCustomerCreditTransferV06_pacs.008.001.06
Inbound_L4L_TCH_FIToFFinancialInstitutionCreditTransferV06_pacs.009.001.06 (COV and Core)
Inbound_L4L_TCH_PaymentReturnV06_pacs.004.001.06 (For pacs.008_009)
Inbound_TCH_FIToFPaymentCancellationRequest_camt.056.001.05 (For pacs.008, 009, 004)
Inbound_TCH_LiquidityMgt_LiquidityCreditTransferV03_camt.050.001.03
Inbound_TCH_ModifyTransactionV06_camt.007.001.06
Inbound_TCH_ResendRequestV01_DRAFTsadmin.006.001.01
Outbound_TCH_OutboundFIToFPaymentStatusReport_pacs.002.001.07 (For pacs.008_009_004_admin.006)
Outbound_L4L_TCH_FIToFCustomerCreditTransferV06_pacs.008.001.06
Outbound_L4L_TCH_FIToFFinancialInstitutionCreditTransferV06_pacs.009.001.06 (COV and Core)
Outbound_L4L_TCH_PaymentReturnV06_pacs.004.001.06 (For pacs.008_009)
Outbound_TCH_FIToFPaymentStatusReport_pacs.002.001.07 (For camt.050)
Outbound_TCH_ReceiptAcknowledgementV01_DRAFTsadmin.007.001.01
Outbound_TCH_ResolutionOfInvestigationV06_camt.029.001.08 (For camt.056_camt.007)
Message Usage Guidelines (detailed)

Features:

- Carrots and drop downs.
- (Multiplicity) Min and Max and restrictions – These are ISO defaults, for CHIPS, select the “Result View” tab.
- Right side of the screen:
  - Highlights references to CHIPS legacy, etc. (called “Synonym”)
  - Will reference things like “Identifications Handling” which is a whole separate reference document.
- You can Export
CHIPS Legacy vs. ISO 20022 Compare

In legacy CHIPS, element 01 of tag 260 is called, Amount...

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
<th>Size</th>
<th>Element 01 Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
<td>ISO currency code</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>CURRENCY</td>
<td>AN</td>
<td>Bank or bank-officer</td>
</tr>
</tbody>
</table>

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May 2017
Issue 4.2
CHIPS Systems and Operations Manual 18-43
CHIPS Legacy vs. ISO 20022 Compare

(In ISO 20022 format the tag is called: *IntrBkSttlmAmt* is the legacy equivalent, and has been expanded to 18 to meet best practice for HVP+. On the right, you can see all the attributes of that tag and reference to the legacy code.)
Access to My Standards Portal

- In January 2018, **CHIPS Bank Participants** and **CHIPS vendors** were asked to request access to the **TCH group** that has been set-up on **Swift My Standards Portal**.

- If you would like to get access and you are a CHIPS Participant or a CHIPS Vendor:
  - **STEP 1** – **Create a SWIFT.COM account**
  - **STEP 2** – Once you are setup with your SWIFT.COM account, **request to be added to the TCH Group** (by either emailing us here at TCH or via the SWIFT.COM portal).

For more information, contact:
Erin.Moore@theclearinghouse.org
Sharon.Jablon@theclearinghouse.org
Robert.Pepitone@theclearinghouse.org
What you should do to be prepared

Next steps for CHIPS Participants:

• Ensure you are staffed and retain budget for 2019/2020 activities

• Request access to TCH’s Message Usage Guidelines (MUGs) by contacting your TCH CRM or CHIPS Product Manager

• Review and comment on TCH’s current Message Usage Guidelines

• Socialize the ISO 20022 effort across your management teams and functional areas

• Watch for upcoming training and project update information via CHIPS Operations Bulletins or other releases.

For more information, contact:
Erin.Moore@theclearinghouse.org
Robert.Pepitone@theclearinghouse.org