



BUREAU OF THE  
**Fiscal Service**  
U.S. DEPARTMENT OF THE TREASURY

# **G-Invoicing Order Mod/Revert**

(Planned Future Enhancement)

Version 1.0 – January 28, 2022

# Order Mod/Revert – Objectives

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- Describe set of post-Mandate changes (FY '23 or beyond)
- **Order Mod:** Allow Performance to be reported while previously open Order is being modified
- **Order Revert:** Allow the agency that initiated the modification (Partner 1) to Revert the Order back to its previous version
- Minimize the impact to external APIs
  
- *Note: We also analyzed related enhancements for the future*
  1. *Return an Order from Partner 2 (manager) to Partner 1 (manager)*
    - *Currently, partner 2 manager must submit to approver for rejection*
    - *Return not possible because no previous status when partner 1 uses API*
  2. *Allow partner 2 to initiate Order modification*
    - *Currently need to ask Partner 1 to initiate Mod*
    - *Possible, but large effort to create new SFO and BIO flows*

# Order Mod/Revert – Background

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- Current G-Invoicing Design
  - Two sets of tables for Orders: Active and Archive
  - The highest Order Modification Number (Mod 'n') is active
    - Previous Mod Numbers are archived (each one in open or closed status)
    - Currently, access to archive tables is limited to Order History export
  - Performance only allowed when active Order is in open status
  - No easy way to abandon a Mod and restore previous Order version
- API Transition
  - Two partners and G-Invoicing must stay in sync
    - Example: Partner 1 wants to Revert, but Partner 2 cannot interpret that action
  - New API versions must be backwards compatible
    - Use of a new feature that might corrupt an Order in their partner's system will be controlled through *Feature Management*

# Performance During Order Modification

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- Relax validation rules for Performance requests *new feature*
  - Performance will be allowed when all three conditions are met: *new rules*
    - a) Order is being modified (i.e., states DR/P1A/SP2/P2A)
    - b) Previous Modification Number (n -1) is open (REC status)
    - c) Feature flag for 'Order Mod' is Yes for both partners
      - Both partners must be able to handle this action
  - *Note: Performance is still allowed when active Order is open*
- Flow of Order modification remains the same
  - No changes to Push Order API
  - G-Invoicing will validate the Order with each UI approval *new requirement*
  - Changes needed to display Orders in G-Invoicing UI *new requirements*
    - Show current version on Order List and Details pages
    - Show “Performance ready” version from Order Schedule Balance page

# Revert Order to Previous Version

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- Current Order flow for rejection by Partner 2
  1. Partner 1 introduces modification to open Order, then approves
  2. Partner 2 rejects the modification (with Reason)
  3. Partner 1 must then restore previous values of the Order
  4. Both partners must re-approve the Order (as it was)
- Partner 1 Order Manager provided two new options to Revert *new feature*
  - A. Revert a rejected Order (API or UI)
    - Replaces steps 3 and 4 (above)
  - B. Revert a draft Order (UI only)
- Active Order is replaced by archived version (Mod 'n – 1') *new requirements*
  - UI will preview the prior version (i.e., the target for the Revert)
  - Both partners must be able to interpret this action (*see Feature Management*)
  - Order Manager must provide a reason for the Revert action
  - Business Transaction ID from archived Order will be restored
  - Last Updated Date/Time will be updated so API clients can pull the change
  - Abandoned modification (number 'n') is audited, deleted, and available for reuse

# Implementation Details

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- The following slides document what needs to be changed in published G-Invoicing specifications in order to implement this new feature
- Implementation details are provided so that:
  - Product Owner(s) can confirm detailed business requirements
  - Development team(s) can visualize changes needed to support new features
- At this time, we cannot predict when development of this feature will begin, when it will be released into QA or Production, or in which release it will be included
- When the time comes to begin work on these features, the details will be added to the specifications, a release will be targeted, and API specifications will be republished
- One of the implementation details described below is a move from XML to JSON payloads for APIs involving GT&Cs, Orders and Performance
  - Future (post-mandate) APIs will only support JSON payloads
    - *Note: Newer APIs (e.g., Pull Org, Remittance) are already in JSON format*

# Changes to FIDS

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- Order Federal Intragovernmental Data Standards
  - Add new data element to capture Reprocessing Reason
    - Definition: Explanation for an action that moves a document back to a prior version or status, including instructions on if/how to correct the document for reprocessing.
    - reprocessingReason (JSON), 1024 characters

*Note: This one data element will cover multiple Reprocessing Reasons, such as Return (for GT&C and Orders), Revert (for GT&C and Orders), and Reverse (for EZ).*
  - Add new data element to capture Modification Reason
    - Definition: Explanation for a change to a versioned document (e.g., Order), significant enough to warrant reapproval of the document.
    - modificationReason (JSON), 1024 characters
- We will not pursue combining Action with Reason to form Comments
  - This change would have been impactful on the APIs and ERP vendors
  - Rejection Reason remains unchanged
  - Closing Comments remains unchanged
  - In the future, G-Invoicing UI may add the Reason to each Action in the Audit History
- No changes to Performance FIDS

# Changes to Order SM&VR

- Add new data element (row) to capture Reprocessing Reason
- Add new data element (row) to capture Modification Reason
- There are already “action” columns for Close, Modify and Reject
  - Modification Reason is now required for Modify
  - Return only applies to the user interface
- Add a new column for Revert (see table below)
  - Client must indicate if previous version was open or closed
    - If wrong status is submitted, a 400 error is returned

|                          | <u>Close</u> | <u>Modify</u>   | <u>Reject</u> | <u>Return</u>    | <u>Revert</u>     |
|--------------------------|--------------|-----------------|---------------|------------------|-------------------|
| via API or UI:           | either       | either          | either        | UI only          | <b>either</b>     |
| Closing Comments:        | required     |                 |               |                  |                   |
| Rejection Reason         |              |                 | required      |                  |                   |
| Modification Reason      |              | <b>required</b> |               |                  |                   |
| Reprocessing Reason      |              |                 |               | <b>required</b>  | <b>required</b>   |
| Order Number:            | required     | required        | required      | required         | <b>required</b>   |
| Business Transaction ID: | required     | required        | required      | required         | <b>required</b>   |
| (new) Status:            | CLZ          | DR or SP2       | REJ           | SP2 <b>or DR</b> | <b>REC or CLZ</b> |
| Other data requirements: |              | full Order      |               |                  |                   |

New requirements appear in **red boldface**

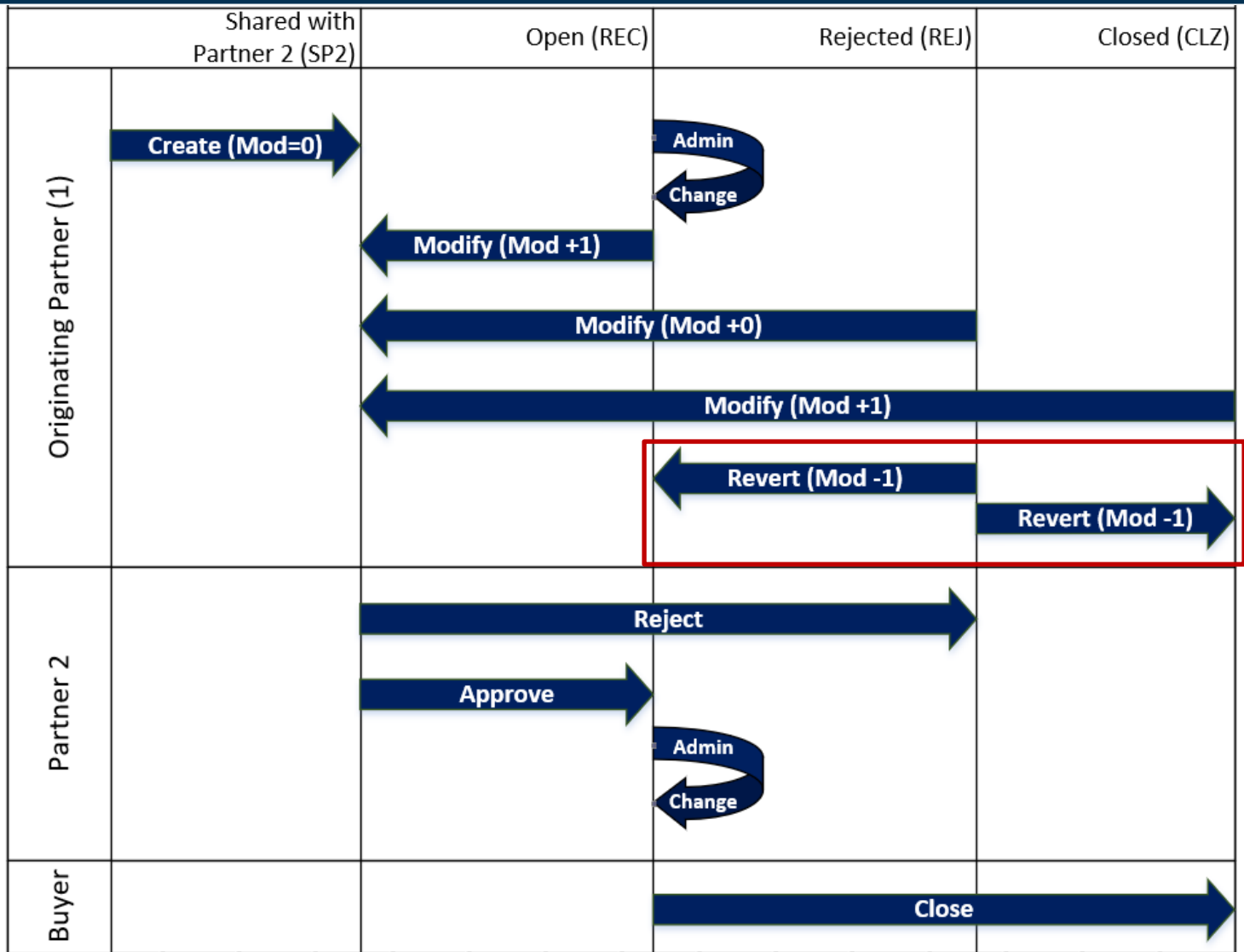
*Note that the BTI submitted in the request must match the active Order version, not the archived version that will be restored.*



# Order State Diagram for Push API

Diagram 2:

- Added two new flows for Partner 1 from Reject to Open or Closed
- Previously, Reject could only go to SP2 through the API (due to a modification)



# Order Processing for Push API

Table 2

- Added new row for Revert
- Additional UI options appear on later slides

| Requested By      | Type of Request          | Method | Current State            | New State             | Data Validation Rules   |
|-------------------|--------------------------|--------|--------------------------|-----------------------|---|
| Partner 1         | New Order                | POST   | N/A                      | Shared with Partner 2 | <ul style="list-style-type: none"> <li>• All required Partner 1 data in request (see SM&amp;VR)</li> <li>• Partner 2 (only) data in request will be ignored</li> </ul>  |
| Partner 2         | Approved Order           | PUT    | Shared with Partner 2    | Open                  | <ul style="list-style-type: none"> <li>• All required Partner 2 data in request (see SM&amp;VR)</li> <li>• Partner 1 (only) data in request will be ignored</li> </ul>  |
| Partner 2         | Rejected Order           | PUT    | Shared with Partner 2    | Rejected              | <ul style="list-style-type: none"> <li>• Required data for rejection in request (see SM&amp;VR)</li> <li>• All other Partner 2 data in request will be ignored</li> <li>• Partner 1 data not in request</li> </ul>  |
| Partner 1         | Modified Order           | PUT    | Open, Rejected or Closed | Shared with Partner 2 | <ul style="list-style-type: none"> <li>• All required Partner 1 data in request (see SM&amp;VR)</li> <li>• Changes detected to Partner 1 data elements (xml)</li> <li>• Partner 2 (only) data in request will be ignored</li> </ul>   |
| Partner 1         | Reverted Order           | PUT    | Rejected                 | Open or Closed        | <ul style="list-style-type: none"> <li>• All required Seller data in request (see SM&amp;VR)</li> <li>• All other Partner 1 &amp; 2 data in request will be ignored</li> <li>• Status included in request must match the status of the previous (Mod n -1) version</li> </ul> |
| Requesting Agency | Closed Order             | PUT    | Open                     | Closed                | <ul style="list-style-type: none"> <li>• Required data for closure in request (see SM&amp;VR)</li> <li>• All other Buyer data in request will be ignored</li> <li>• All Seller data in request will be ignored</li> </ul>   |
| Requesting Agency | Requesting Admin Changes | PUT    | Open                     | Open                  | <ul style="list-style-type: none"> <li>• All required Buyer data in request (see SM&amp;VR)</li> <li>• Administrative changes detected to Buyer data (xml)</li> </ul>   |
| Servicing Agency  | Servicing Admin Changes  | PUT    | Open                     | Open                  | <ul style="list-style-type: none"> <li>• All required Seller data in request (see SM&amp;VR)</li> <li>• Administrative changes detected to Seller data (xml)</li> </ul>   |

# Other Changes to Push API

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- Updated Business Rules

- At the Agency (aka, disburser) Account level, agencies will be allowed to declare their readiness for:

- a) Performance during Order modification

- b) Reverting a modified Order back to previous version

*Note: Feature Management requirements appear in a separate presentation. Future enhancement could allow for readiness to be signaled at organizational group level.*

- Performance will be allowed for Orders when:

- a) Order is being modified (i.e., states DR/P1A/SP2/P2A), and

- b) Previous Modification Number (n -1) is open (REC status)

- Exception to rule 4.2.2.4: BTI will be reused for Revert action

- For reverted Order requests, Partner 1 must send only those data identified as required in the SM&VR document

- All other data will be ignored

- The previous version will be restored as is, except for the Last Update Date/Time

# Version History

| Version | Date       | Release | Description  |
|---------|------------|---------|--|
| v0.1    | 8/21/2021  | TBD     | Original version   |
| v0.2    | 9/27/2021  | TBD     | After internal reviews   |
| v0.3    | 11/5/2021  | TBD     | Reacted to Treasury & agency feedback. Added detail specs. FRB review.   |
| v0.4    | 12/2/2021  | TBD     | Future API payloads <u>will</u> be in JSON   |
| v0.5    | 12/22/2021 | TBD     | (1) Changed reverseActionComments to backwardActionComments to accommodate 7600EZ type 'Reverse'. (2) Target 13 agencies said it's always okay to report Performance during Order Mod. |
| v0.6    | 1/10/2022  | TBD     | Draft version for publishing for G-Invoicing website   |
| v0.7    | 1/27/2022  | TBD     | Added new Modify and "Retreat" Reasons.<br>First published version on G-Invoicing website.   |
| v1.0    | 1/28/2022  | TBD     | First version for publishing to G-Invoicing website  |
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