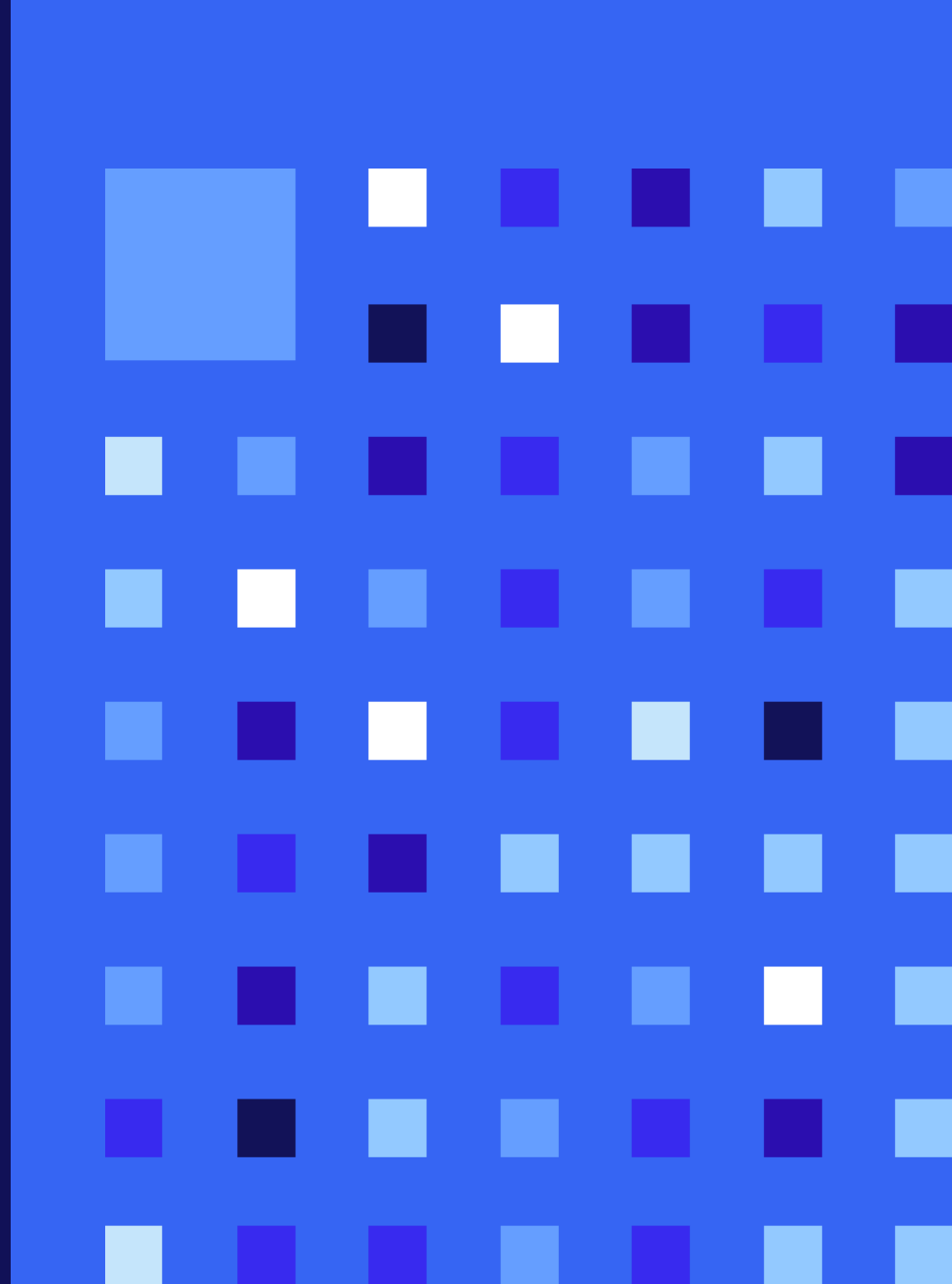
eBay Connect 2022

Payments Changes for Developer Ecosystem (DECO)

Deepak Sharma
VP Payments and Risk Technology

Ulrich Herberg
Distinguished Engineer, Payments



Managed Payments

Serving millions of buyers and sellers across 190 markets globally

Buyer Choice

Simplified Seller Operations

Business Growth

eBay Vault

Fulfillment API enhanced to return eBay Vault and new tax information

getOrders response:

```
{
  ...
  "orders" : [ {
    ...
      "program" :
          ...
          "ebayVault" : {
              "fulfillmentType" :
"[SELLER_TO_VAULT, VAULT_TO_VAULT,
VAULT_TO_BUYER]"},
```

Support for eBay vault added to Trading API's order management calls

getOrders response:

```
<GetOrdersResponse>
  <OrderArray>
    <Order>
      ...
      <ShippingAddress>
        ...
        <Name>eBay Vault</Name>
      </ShippingAddress>
      ...
      <TransactionArray>
        <Transaction>
          <Program>
          ...
            <Fulfillment>
              <FulfillmentBy>EBAY</FulfillmentBy>
              ...
            </Fulfillment>
```

Finances API updates

getTransactions now provides additional information about **three new VAT and income tax-related charges**

getTransactions response:

```
  ...
  "transactions" : [ {
    ...
    "feeJurisdiction" : {
      "regionName" : "string",
      "regionType" : "[COUNTRY]"
    },
    "feeType" : "FeeTypeEnum :
[INCOME_TAX_WITHHOLDING, VAT_WITHHOLDING,
TAX_DEDUCTION_AT_SOURCE]",
    ...
```

Finances API updates

Motor vehicle listings that require initial deposits are now subject to a **Deposit processing fee**

getTransactions response:

```
  {
  ...
  "transactions" : [ {
    ...
    "feeType" : "FeeTypeEnum :
[DEPOSIT_PROCESSING_FEE]",
    ...
```

Finances API updates

Finances API enhanced to support on-demand payouts

getTransactionSummary response:

```
{
...
"withdrawalAmount" : {
  "convertedFromCurrency" : "[AED,AFN,ALL...]",
  "convertedFromValue" : "string",
  "currency" : "[AED,AFN,ALL...]",
  "exchangeRate" : "string",
  "value" : "string"
},
"withdrawalBookingEntry" : "[CREDIT,DEBIT]",
"withdrawalCount" : "integer"
}
```

Finances API updates

Detailed order-level tax information now returned in Order v1 API

getOrder v1 response:

```
  {
  ...
  "taxDetails": [
    {
      "amount": {
        "currency": " [AED,AFN,ALL,...]",
        "value": "string"
      },
      "taxClassification":
"[DOMESTIC_LEG_TAX,HANDLING_TAX,IMPORT_TAX,INTERNATI
ONAL_LEG_TAX,ITEM_TAX,SERVICE_TAX,SHIPPING_IMPORT_TA
X,SHIPPING_TAX]",
      "taxClassificationDetails": [
        {
          "amount": {
            "currency": "[AED,AFN,ALL,...]",
            "value": "string"
          },
          "taxType":
"[STATE_SALES_TAX,VAT,PROVINCE_SALES_TAX,REGION,GST]
"
        }
```

New Shipping Rate Table APIs

Domestic and international shipping rate tables allow sellers to set fixed shipping costs based on the buyer's location and the buyer's selected shipping service option.

getRateTable response:

```
{
"marketplaceId": "[EBAY_AT,EBAY_AU,…]",
"name": "string",
"rates": [  {
    "additionalCost": {
      "currency": "[AED,AFN,ALL,…]",
      "value": "string"
    },
    "rateId": "string",
    "shippingCategory":
"[ONE_DAY,EXPEDITED,STANDARD,ECONOMY,EXPRESS]",
    "shippingCost": {
      "currency": "[AED,AFN,ALL,…]",
      "value": "string"
    },
    "shippingRegionNames": [
      "string"
    ],
    "shippingServiceCode": "string"
  }
],
"rateTableBasis": "[ITEM,WEIGHT,SURCHARGE]",
"rateTableId": "string",
"shippingOptionType": "[DOMESTIC,INTERNATIONAL]"
}
```

New Shipping Rate Table APIs

Additionally, sellers can also set weight and handling charges to shipping costs.

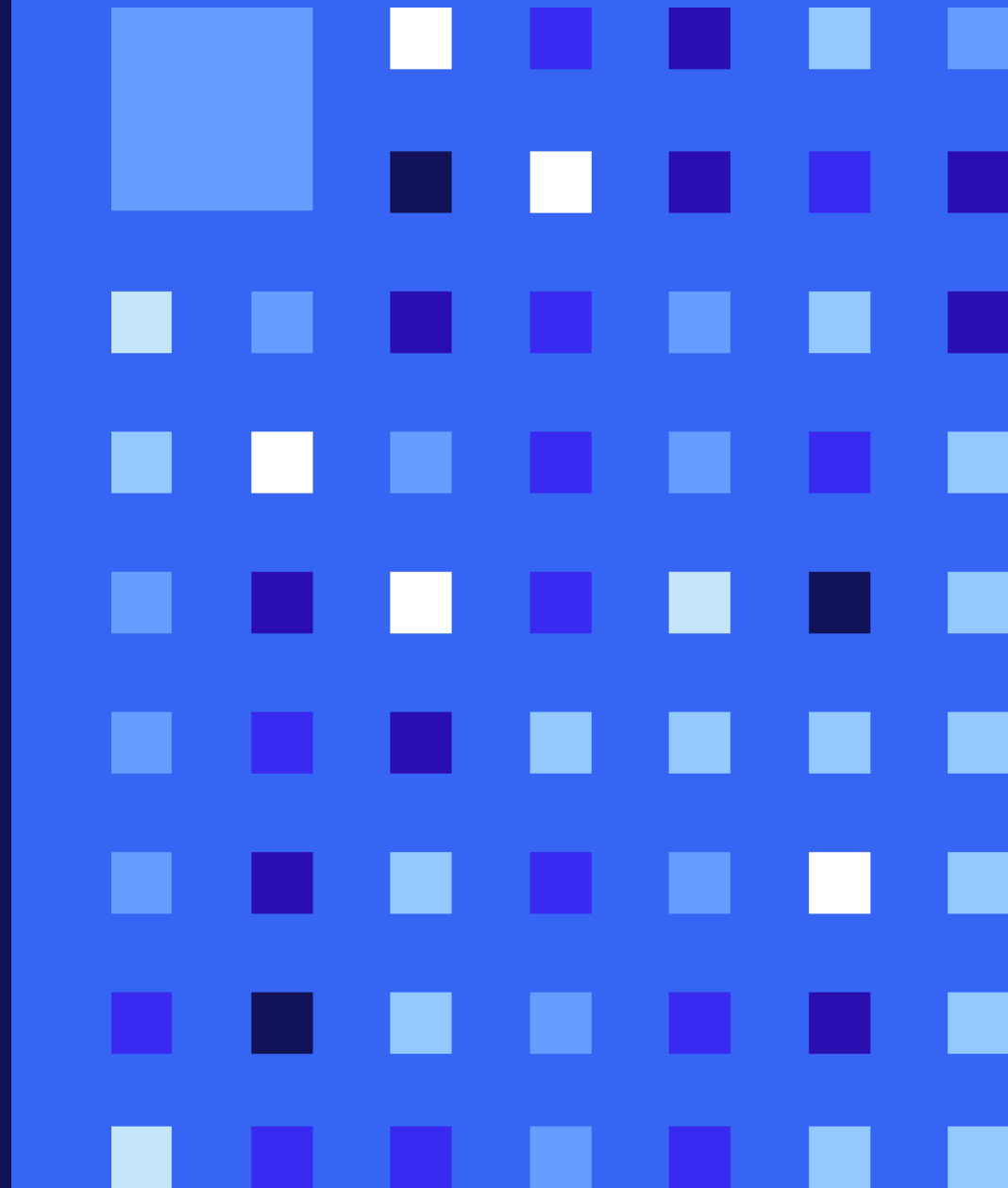
updateShippingCost response:


```
{
"rates": [
  {
    "additionalCost": {
      "currency": "[AED,AFN,ALL,…]",
      "value": "string"
    },
    "rateId": "string",
    "shippingCost": {
      "currency": "[AED,AFN,ALL,…]",
      "value": "string"
    }
  }
]
}
```

eBay Connect 2022

Payment Account

Ulrich Herberg
Distinguished Engineer, Payments



What is a Payment Account and why do we need to support it?

EU and UK law requires that if a payment institution allows payment service users (for eBay: sellers) to initiate payments to a third party, those services must be structured as a "payment account."

The following features require support for Payment Accounts:

- Seller-initiated refunds and returns
- On-demand payouts
- Stored value (eBay balance payment at checkout)
- Shipping labels (purchase and refund)

Multi-factor authentication (MFA) requirements at various user flows

MFA for transactional and non-transactional flows

- MFA for accessing and updating payment sensitive data
  - Customer name, email address, phone #, user ID, password and CC/bank account information
- MFA for payment initiation
  - MFA required before initiating payment using Stored value

What are we asking from developers?

- European regulation on Strong Customer Authentication (SCA) requires us to perform multi-factor authentication for our EU/UK sellers
- As per our Legal guidance, we can perform the SCA on the developer application making API calls
- SCA has to be performed for:
  - Certain APIs only (retrieving payment sensitive data or initiating payments)
  - For EU/UK sellers only
- We require the following two factors:
  - OAuth access token (existing, nothing new)
  - Digital Signature added as HTTP header
- Details here: https://developer.ebay.com/develop/guides/digital-signatures-for-apis

Which APIs are Impacted?

- All methods in the Finances API
- issueRefund in the Fulfillment API
- GetAccount in the Trading API
- The following methods in the Post-Order API:
  - Issue Inquiry Refund
  - Issue case refund
  - Issue return refund
  - Process Return Request
  - Approve Cancellation Request
  - Create Cancellation Request

How to add the Digital Signatures?

- Standards-based solution based on upcoming IETF standards:
  - https://www.ietf.org/archive/id/draft-ietf-httpbis-message-signatures-11.html
  - https://www.ietf.org/archive/id/draft-ietf-httpbis-digest-headers-10.html

- There are some open-source implementations out there,
  and more will follow once these drafts become RFCs

- Four HTTP headers need to be added:
  - **Content-Digest:** SHA-256 digest over the HTTP payload, if any.
  - **x-ebay-signature-key:** JWE as provided via the developer portal
  - **Signature-Input:** Indicates which headers and pseudo-headers and in which order
  - **Signature:** Actual signature

Sample Signature

HTTP Message:

```
POST http://localhost:8080/verifysignature HTTP/1.1
Host: localhost:8080
Date: Wed, 31 Aug 2022 02:07:55 GMT
Content-Type: application/json
Content-Length: 18

{"hello": "world"}
```

Additional Headers:

Signature-Input: sig1=("content-digest" "x-ebay-signature-key" "@method" "@path" "@authority");created=1658440308

Content-Digest: sha-256=:X48E9qOokqqrvdts8nOJRJN3OWDUoyWxBf7kbu9DBPE=:

Signature:
sig1=:ZMUpAejnqrt6POSx02ltx3cT9YODV2r+Cem/BKOagDSfztKOtCsjP/MxZqmY+FVJ3/8E4BL76T9Fjty8oJnsAw==:

x-ebay-signature-key:
eyJ6aXAiOiJERUYiLCJlbmMiOiJBMjU2R0NNIiwidGFnIjoiSXh2dVRMb0FLS0hlS0Zoa3BxQ05CUSIsImFsZyI6IkEyNTZHQ01LVyIsIml2IjoiaFd3YjNoczk2QzEyOTNucCJ9.2o02pR9SoTF4g_5qRXZm6tF4H52TarilIAKxoVUqjd8.3qaF0KJN-rFHHm_P.AMUAe9PPduew09mANIZ-O_68CCuv6EIx096rm9WyLZnYz5N1WFDQ3jP0RBkbaOtQZHImMSPXIHVaB96RWshLuJsUgCKmTAwkPVCZv3zhLxZVxMXtPUuJ-ppVmPIv0NzznWCOU5Kvb9Xux7ZtnlvLXgwOFEix-BaWNomUAazbsrUCbrp514GIea3butbyxXLNi6R9TJUNh8V2uan-optT1MMyS7eMQnVGL5rYBULk.9K5ucUqAu0DqkkhgubsHHw

How to test digital signature implementation

- In Sandbox and production starting September 30, 2022.
  - Invalid signatures will lead to a 403
  - Missing signatures will be enforced by January 31, 2023
  - Key material can be acquired on the developer portal when logged in, starting Sep 30, 2022
- Until then, developers can test it using a local test environment
  - See https://developer.ebay.com/develop/guides/digital-signatures-for-apis for github code and Docker container

Demo

B.2. Test Cases

This section provides non-normative examples that may be used as test cases to validate implementation correctness. These examples are based on the following HTTP messages:

For requests, this `test-request` message is used:

```
NOTE: '\' line wrapping per RFC 8792

POST /foo?param=Value&Pet=dog HTTP/1.1
Host: example.com
Date: Tue, 20 Apr 2021 02:07:55 GMT
Content-Type: application/json
Content-Digest: sha-512=:WZDPaVn/7XgHaAy8pmojAkGWoRx2UFChF41A2svX+T\
  aPm+AbwAqBWnrIiYllu7BNNyealdVLvRwEmTHWXvJwew==:
Content-Length: 18

{"hello": "world"}
```

For responses, this `test-response` message is used:

```
NOTE: '\' line wrapping per RFC 8792

HTTP/1.1 200 OK
Date: Tue, 20 Apr 2021 02:07:56 GMT
Content-Type: application/json
Content-Digest: sha-512=:JlEy2bfUz7WrWIjc1qV6KVLpdr/7L5/L4h7Sxvh6sN\
  HpDQWDCL+GauFQWcZBvVDhiyOnAQsxzZFYwi0wDH+1pw==:
Content-Length: 23

{"message": "good dog"}
```

B.2.1. Minimal Signature Using rsa-pss-sha512

This example presents a minimal signature using the `rsa-pss-sha512` algorithm over `test-request`, covering none of the components of the HTTP message, but providing a timestamped signature proof of possession of the key with a signer-provided nonce.

Table of Contents

ebay