NVC Electronic Data Interchange Guide

CONFIDENTIAL | INSTITUTIONAL PARTNER DOCUMENTATION

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Introduction to Financial EDI

Electronic Data Interchange (EDI) is a standardized method for transferring financial transaction data between organizations electronically. In the context of the NVC Global Banking Platform, EDI serves as a critical bridge between traditional banking systems and modern financial infrastructures, enabling seamless integration with financial institutions, payment processors, and regulatory bodies.

What is Financial EDI?

Financial EDI is the electronic exchange of standardized financial documents between organizations, including:

- Payment orders
- Remittance advice
- Invoice payments
- Account statements
- Credit/debit adjustments
- Fund transfers
- Payment status updates

Unlike manual processes or proprietary formats, EDI uses standardized formats, ensuring interoperability across different systems and institutions, while maintaining the highest levels of security and compliance.

Benefits of EDI Integration

- **Reduced Processing Time**: Elimination of manual data entry reduces transaction processing time from days to minutes
- **Lower Operating Costs**: Reduction in paper handling, mailing, and manual processing costs
- **Enhanced Accuracy**: Elimination of manual data entry errors (Studies show a 30-40% error rate reduction)
- **Improved Cash Flow Management**: Real-time transaction visibility and faster settlement times
- **Regulatory Compliance**: Built-in audit trails and standardized documentation
- **Seamless Integration**: Connect with global financial institutions, clearing houses, and payment networks

EDI Standards Supported

The NVC Global Banking Platform supports multiple EDI standards to ensure compatibility with diverse financial institutions:

X12 (ANSI ASC X12)

The American National Standards Institute (ANSI) Accredited Standards Committee X12 format is widely used in North America. Our platform supports the following X12 transaction sets:

- **820**: Payment Order/Remittance Advice
- **824**: Application Advice
- **835**: Healthcare Claim Payment/Advice
- **997**: Functional Acknowledgment

EDIFACT (UN/EDIFACT)

The United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) standard is used internationally. Our platform supports:

- **PAYORD**: Payment Order
- **REMADV**: Remittance Advice
- **BANSTA**: Banking Status
- **FINSTA**: Financial Statement
- **PAYEXT**: Extended Payment Order

SWIFT (ISO 15022/20022)

For international banking transactions, we support SWIFT message types, integrated with our SWIFT messaging module:
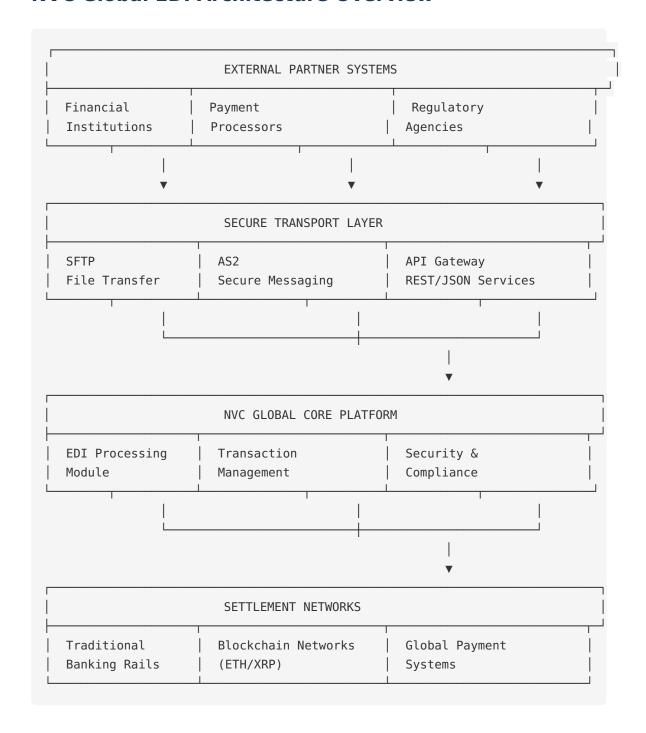
- **MT101**: Request for Transfer
- **MT103**: Single Customer Credit Transfer
- **MT202**: General Financial Institution Transfer
- **MT940/MT942**: Customer Statement Messages

- **ISO 20022 (MX)** message types (pacs.008, pacs.009, etc.)

Integration with NVC Global Banking Platform

The NVC Global Banking Platform serves as a central hub for financial EDI processing, connecting your organization with:

1. **Banks and Financial Institutions**: Direct integration with major banks including JP Morgan Chase, Wells Fargo, Bank of America, and international institutions
2. **Federal Reserve**: ACH and Fedwire connectivity
3. **Clearinghouses**: Automated Clearing House (ACH) networks
4. **Payment Networks**: Access to global payment networks
5. **Corporate Partners**: Supply chain and business partner connectivity
6. **Blockchain Networks**: Integration with Ethereum and XRP Ledger for digital settlement options

NVC Global EDI Architecture Overview

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│                    EXTERNAL PARTNER SYSTEMS                          │
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Getting Started with EDI

Access the EDI Management Dashboard

The EDI Dashboard can be accessed from three locations:

1. **Main Navigation**: Click the "EDI" dropdown in the main navigation bar
2. **Admin Menu**: For administrators, select "EDI Management" from the Admin dropdown
3. **Resources Menu**: For all users, select "EDI Services" from the Resources dropdown

EDI Dashboard Overview

The EDI Dashboard provides a comprehensive view of:

- Configured partner institutions
- Recent EDI transactions and their status
- Error reports and notifications
- System status and connectivity checks

Partner Configuration

Adding a New EDI Partner

1. Navigate to EDI Dashboard > Partner Institutions > Add New Partner
2. Provide the following information:
3. **Partner Name**: Legal name of the institution
4. **Partner Code**: Unique identifier (often provided by the partner)
5. **EDI Format**: Select X12, EDIFACT, or custom format
6. **Connection Type**: SFTP, AS2, or API

7. **Connection Details**: Server information, credentials, and security settings
8. **Transaction Types**: Specify which transaction types this partner can process

Connection Types

The NVC Global Banking Platform supports multiple secure connection methods:

SFTP (Secure File Transfer Protocol)

- Requires: Hostname, port, username, password/key, directory paths
- Best for: High-volume batch transfers
- Security: SSH encryption and key-based authentication

AS2 (Applicability Statement 2)

- Requires: Partner URL, certificates, sender/receiver IDs
- Best for: Real-time transfers with immediate acknowledgments
- Security: HTTPS with digital signatures and encryption

API Integration

- Requires: API endpoint URLs, authentication credentials, webhook configurations
- Best for: Real-time transactional data with instant processing
- Security: OAuth 2.0, API keys, and TLS encryption

Transaction Types

Our platform supports several EDI transaction types, each serving different financial needs:

EDI_PAYMENT

General payment transactions using EDI formats. Suitable for:
- Vendor payments
- Customer refunds
- Miscellaneous disbursements

EDI_ACH_TRANSFER

ACH-specific transactions conforming to NACHA formats:
- Direct deposits
- Direct payments
- Business-to-business payments
- Consumer bill payments

EDI_WIRE_TRANSFER

Wire transfer instructions via EDI:
- High-value transactions
- Time-sensitive payments
- International transfers
- Central bank settlement

Creating an EDI Transaction

1. Navigate to EDI Dashboard > Transactions > Create New Transaction
2. Select the transaction type and partner institution
3. Enter transaction details (amount, recipient, purpose, etc.)
4. Review and submit the transaction
5. The system will generate the appropriate EDI format and submit to the partner

Security and Compliance

Data Protection

All EDI communications are secured using:
- TLS 1.3 for in-transit encryption
- AES-256 for stored transaction data
- Digital signatures for transaction integrity

Compliance Features

The NVC Global Banking Platform's EDI functionality maintains compliance with:
- **OFAC**: Automatic screening against prohibited parties
- **PCI DSS**: For payment card-related data
- **GLBA**: Financial privacy requirements
- **SOX**: Audit trail maintenance
- **BSA/AML**: Suspicious activity monitoring

Audit Trails

All EDI transactions maintain comprehensive audit trails including:
- Transaction creation timestamp and user
- All status changes with timestamps
- Delivery confirmations
- Acknowledgment receipts
- Error notifications and resolution steps

Troubleshooting

Common Issues and Resolutions

Issue	Possible Cause	Resolution
Connection Failed	Server unavailable or incorrect credentials	Verify connection settings and server status
Invalid Format	EDI format does not match partner requirements	Review format specifications and validation rules
Rejected Transaction	Business rules violation at partner institution	Check error codes and review transaction details
Missing Acknowledgment	Communication issue after submission	Verify receipt status and contact partner if necessary

Error Code Reference

The platform provides detailed error codes for troubleshooting:
- **EDI-001**: Connection error
- **EDI-002**: Authentication failure
- **EDI-003**: Format validation error
- **EDI-004**: Partner rejection
- **EDI-005**: Timeout error

Appendix: EDI Format Examples

X12 820 Payment Order Example

```
 ISA*00*          *00*          *ZZ*SENDER       *ZZ*RECEIVER     *200428*1030*U*00401*000
                GS*RA*SENDER*RECEIVER*20200428*1030*1*X*004010
                          ST*820*0001
  BPR*C*12500.00*C*ACH*CTX*01*122000661*DA*0975312468*1322559876**01*021000021*DA*0625416748*20
                   TRN*1*12345678*1512345678
                      DTM*097*20211124
                 N1*PE*RECEIVER COMPANY*91*9254120000
                 N1*PR*SENDER COMPANY*91*3265478900
                          ENT*1
             RMR*IV*INV-89562*125000.00**125000.00
                      DTM*003*20211110
                      REF*PO*PO-475869
                        SE*10*0001
                          GE*1*1
                     IEA*1*000000001
```

EDIFACT PAYORD Example

```
                UNB+UNOA:1+SENDER+RECEIVER+211124:1030+1'
                     UNH+1+PAYORD:D:96A:UN:EAN008'
                       BGM+452+12345678+9'
                      DTM+137:20211124:102'
                      DTM+203:20211126:102'
               FII+OR+0975312468:SENDER BANK+ABCDUS33'
               FII+BF+0625416748:RECEIVER BANK+EFGHUS44'
        NAD+OY++SENDER COMPANY:ADDRESS LINE 1:CITY:STATE:ZIP:US'
        NAD+BE++RECEIVER COMPANY:ADDRESS LINE 1:CITY:STATE:ZIP:US'
                       MOA+9:125000.00:USD'
                        RFF+PO:PO-475869'
                        RFF+IV:INV-89562'
                           UNT+12+1'
                           UNZ+1+1'
```

For Additional Information

For detailed EDI implementation assistance, please contact:
- EDI Support Team: edi-support@nvcplatform.net

- Technical Integration: integration@nvcplatform.net
- Phone Support: +1 (555) 123-4567

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