Transmission Protocols

Business To Business Integration

FTP

File Transfer Protocol

The standard method for sending files over TCP/IP, the foundational protocol of the Internet.

Client/Server Model

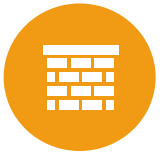
The server listens for incoming connections, authenticates users, and provides services for sending and receiving files.

SFTP and FTPS

More secure versions of FTP. SFTP uses Secure Shell (SSH) to encrypt traffic. FTPS uses SSL or TDS for encryption.

Not Very Firewall Friendly

Requires special ports to be opened on both the sender and receiver's firewall. In its basic form it sends passwords in plaintext.



Active/Passive Mode

Passive mode can be used when a firewall is blocking ports required by active mode.

PUT and GET Commands

The client uses PUT to place files on the server. GET is used to retrieve files from the server

Common FTP Tools

Type	Product	More Info
Server	FileZilla Server	https://filezilla-project.org/
Sever	SolarWinds Serv-U	https://www.solarwinds.com/ftp-server-software
Server	OS Integrated	https://likegeeks.com/ftp-server-linux/
Client	FileZilla Client	https://filezilla-project.org/
Client	Smart FTP	https://www.smartftp.com/en-us/
Client	Windows FTP Utility	https://docs.microsoft.com/en-us/windows-server/administration/windows-commands/ftp

HTTP

Hyper Text Transfer Protocol

The primary protocol for web browsers to communicate with web servers.

HTTP POST

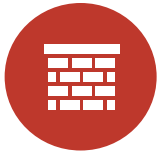
The POST command allows a client to send data to a web server. This makes it a good option for sending B2B messages.

Security with TLS

HTTP commands can be encrypted using TLS. This is the same encryption method used when you open an https site in your browser..

Firewall Friendly

HTTP and HTTPS connections can be easily routed through the sender and receiver's firewalls.



Common HTTP-based B2B Approaches

AS2 and APIs

AS2

AS2 (Applicability Statement 2)

A standard defined by the IETF on how to send Business-To-Business data securely over the Internet

S/MIME Encoding

AS2 uses S/MIME to encode B2B messages into attachments. Public key encryption and digital signing is supported which makes AS2 highly secure.

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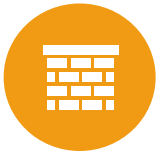
X.509 Certificates

Both the sender and receiver need X.509 certificates to use the security features of AS2. The certificates need to be exchanged prior to sending data..

Firewall Friendly

AS2 uses the HTTP protocol which can be easily routed through the sender and receiver's firewalls.



MDNs

AS2 uses Message Dispatch Notifications (MDN) to allow the server to confirm receipt to the client.

AS1 and AS3

Alternatives to AS2 that are rarely used. AS1 uses email. AS3 uses FTP.

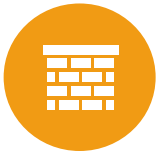
APIs

Application Programmer Interface)

APIs are becoming the preferred way to integrate over the Internet. Provide programmatic access to an application.

Various API Methods

REST APIs, SOAP, GraphQL, OData, gRPC.



Implemented with HTTP

Usually APIs are implemented using HTTP.

Web Services

Originally called web services but API is the more common term now.

More on info on APIs in the Application Integration unit

Common HTTP Tools

Type	Product	More Info
Server	Internet Information Services	https://www.iis.net/
Sever	Apache HTTP Server	httpd.apache.org
Server	NGNIX	https://nginx.org/en/
Client	Curl	https://curl.haxx.se/
Client	HTTPie	https://httpie.org/
Client	Postman	https://www.postman.com/
Client	Python with Requests	https://requests.readthedocs.io/en/master/