
This presentation covers the architecture and components of WebSphere Partner Gateway V6.1.1 and some of the differences between V6.0. and V6.1. It also covers the new features included in this new release.

## Goals

- Architecture overview
- High level overview of new features in this release

Note: the details of the new functions are provided in separate presentations




By the end of this session, you will understand the architectural overview and know some architectural changes that been made in V6.1.1 release. Also, you will have a quick look at the new features included in this release.

## Section

***Architecture overview***




The next section covers the architectural overview of WebSphere Partner Gateway.

## Agenda

- High level overview of architecture and components
- Basic document flow
- Extensibility
- Architecture changes from V6.0 and V6.1
- Summary



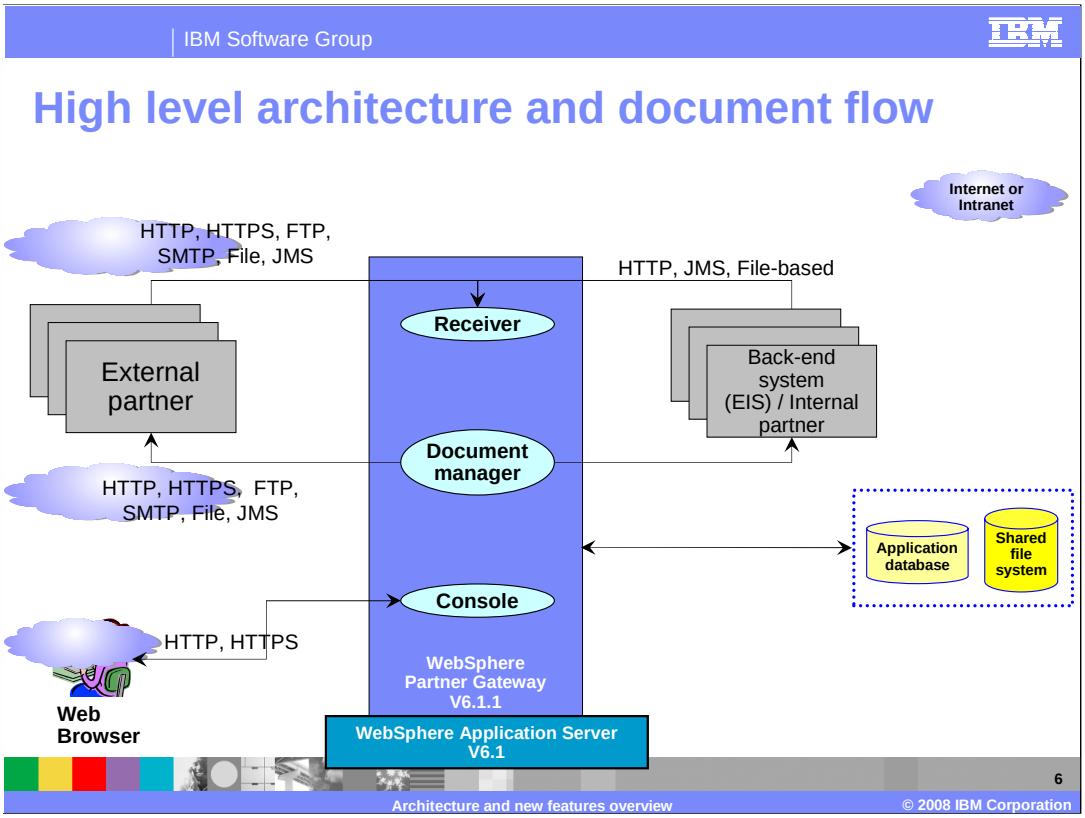

The agenda includes a high level overview of architecture and components, followed by some basic flows. The extensibility of the product is also discussed, along with the architectural differences between V6.0 and V6.1.

## Section

# *Architecture*




The next section covers the architecture and document flow of WebSphere Partner Gateway components.




The slide shows the high level architecture and high-level view of the document flow through the WebSphere Partner Gateway hub components. This architecture is similar to V6.0. There are three major WebSphere Partner Gateway components, namely the receiver, document manager and console.

Receiver is the front end to WebSphere Partner Gateway. It accepts and stores documents from partners or back end system for further processing by WebSphere Partner Gateway.

Document manager retrieves stored data, processes and routes it to both partners and enterprise applications. Additionally, this component performs packaging, validation, logging and other document related functions.

Console provides a view of all business-to-business interactions, allows creation and maintenance of various partner data, profiles, certificates and provides a user interface for the hub administration.

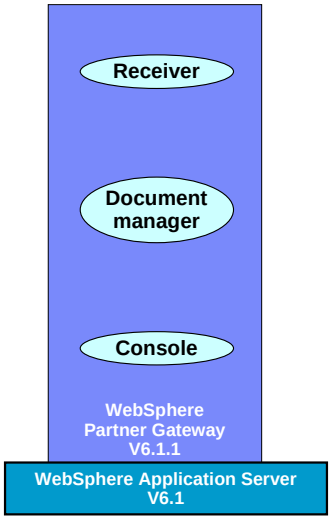
WebSphere Partner Gateway requires a shared file system such as network area storage (NAS) used for common storage of documents.

A Database is used to store hub configuration data, metadata, document status, activity logs, temporary store and other information. The console and the document manager interact with the database to save or retrieve information. Documents can be sent by the external trading partners or internal trading partners (some back end system). Once inside the hub, the document is processed based on the configuration of the hub for that type of document. The processed documents are then sent to the trading partners or to the back end systems.

WebSphere Partner Gateway is a loosely coupled component architecture, which enables very high scalability and high availability topologies. WebSphere Partner Gateway can be used alone to provide business-to-business connectivity to a partner. You might also choose to deploy it with other WebSphere Business Integration offerings to provide tighter integration with your enterprise applications. It supports JMS connectivity, HTTP/S, FTP, FTP Scripting and File-based between the gateway and its external or internal partners.

# Receiver

- Accepts documents from community participants and from back-end systems and stores them
  - Receives a document over a supported transport protocol
  - Determines if a synchronous response document is required for keeping the connection open. Writes the document and metadata relating to the document to shared file services
- Records any transport-specific data (like the source IP address and certificate information about the SSL connection)
- Completes any transport-specific technical acknowledgment (like sending a 200 response to an HTTP POST)



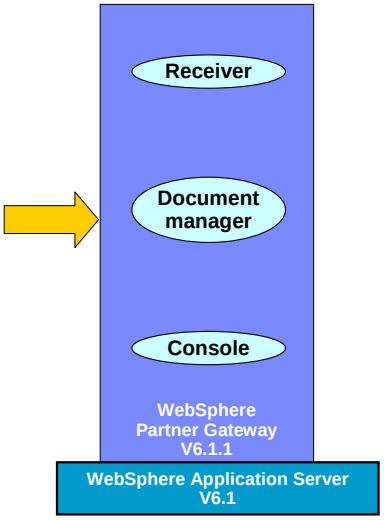




A high level view of the functions of the receiver is shown here. As the name suggests, the job of the receiver is to receive documents and prepare them for the next stage of the document manager. It receives documents from trading partners or back end systems over many supported protocols and packages. The received document and meta data are placed in the common shared file system and the document manager is notified of the new arrival. The receiver handles any transport level functions.

## Document manager

- Retrieves stored data, processes and routes the data, both to external partners and to enterprise systems
- Saves the inbound document to the non-repudiation store and message store
- Unpackages the data and performs authentication and authorization
- Processes the data to the destination format performing tasks such as validation, transformation, and packaging
- Saves the destination document to the non-repudiation store and message store
- Delivers the document to the intended target destination using JMS queue, file directory, HTTP, FTP or other supported mechanism
- Additional tasks include protocol acknowledgments and retries, event processing, alert processing, and resends





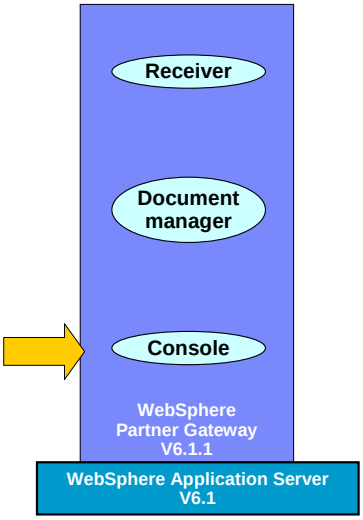


The document manager is the brain of the hub. This is where document processing occurs. When notified of a new document by the receiver, the document manager retrieves the document from the common storage, processes it and routes it to the intended target. The administrator configures the document manager to perform the appropriate actions, such as validation, transformation, or just pass through, on the document.

Protocol specific actions for received documents such as un-packaging including decryption, signature verification, and acknowledgement are performed. Protocol specific actions for sending documents such as packaging including encryption, signatures, and retries are also performed.

## Console

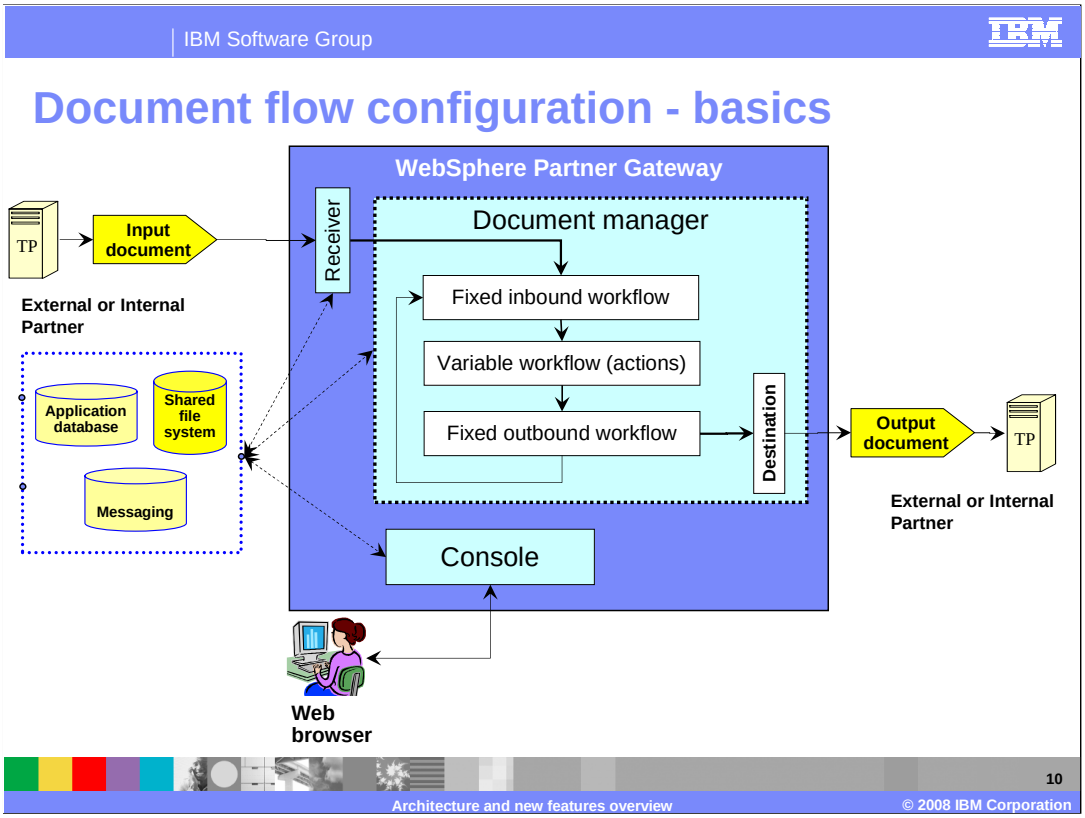
- The community console is used for configuring, administering, and monitoring trading community activities, and responding to events
- The users are primarily the hub administrator and the internal/external partners
- Console provides role-based access control to the various features and views
- Features of the console include:
  - Screens for configuring the hub community and for managing partners
  - Tools for monitoring business-process events and exceptions
  - Detailed reports and analysis on business process, trend, and exception activity
  - Tools to troubleshoot document processing
  - The ability to drill down to events and raw documents







The Console is the user interface for the community operator, internal partner, or the external partner to configure. It is also used to administer and monitor the trading activities. Based on the user-type logged in to the console, appropriate functions are exposed based on the user's role. The console also provides an interface to a set of tools that allow you to view the documents that have flowed through the hub and provides troubleshooting for failed documents.




This graphic provides more detail about the basic flow within WebSphere Partner Gateway components, especially the document manager. There are three different workflows for every document passing through the document manager.

First, the fixed inbound workflow is used for a fixed set of work actions that apply to all incoming documents. For example, unpackaging the incoming document like an AS2 packaged document.

Second, the variable workflow is, as the term implies, variable and is based on the actions specified by the administrator on the specific incoming document. Examples are validation and XML translation that apply to EDI and XML document flows.

Third; the fixed outbound workflow is used for a fixed set of work actions that apply to all outgoing documents, for example, packaging the outgoing document to an AS2 packaged document. In some document flows, especially involving EDI documents, intermediate documents are created by the hub and then flowed back through the document manager for further processing. Each flow of any document through the hub represents a connection between the source and the target trading partners, including the intermediate ones.

## Section

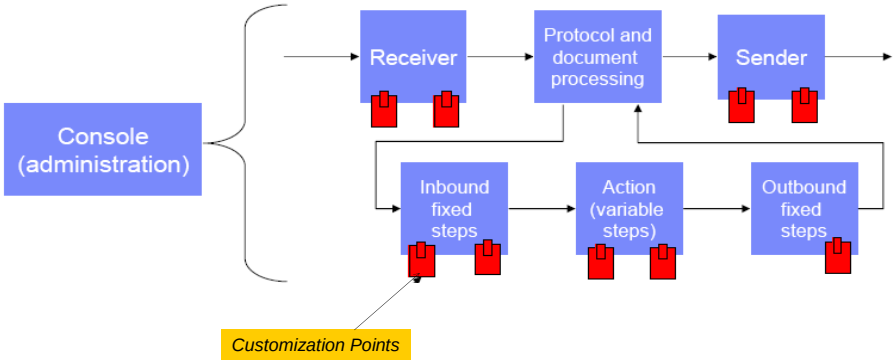
***Extensibility***




The next section covers the extensibility of the product.

# Extensible architecture through exits (handler)

- Provide interface to perform custom functions through user 'exits' or
- "Handlers' – multiple customization points
- Custom processing function such as validation and transformation
- Enable addition of custom transports, packages and protocols
- Documented for customers, services and partners







WebSphere Partner Gateway provides a mechanism for adding custom functions called exits or handlers at different stages of document processing. It includes support for many pre-defined packages, protocols and document types. With the pluggable extensibility of the architecture, new custom packages, protocols or document types can be added by the hub administrator.

Listed below are some examples of architecture extension through the use of exits and handlers.

Here is an example for encryption, validation, and transformation.

As WebSphere Partner Gateway receives and processes a document, a 'call out' to any program can be easily made as part of the possessing. These user exits or handlers can be used for example for document encryption and decryption, and validation, or transformation, or both.

Here is another example for custom transports, packages and protocols.

WebSphere Partner Gateway is extensible to enable custom Transports, packages and protocols to be added within the framework of WebSphere Partner Gateway runtime and Community console based administration. There are several exit points that enable the addition of custom listeners for additional transports, parsers for additional packages and protocols. In this way the rest of the infrastructure of WebSphere Partner Gateway can be used in conjunction with these new capabilities.

For example, a new transport can deliver a document, such as EDI X12 that is processed in the normal way through the rest of the system. Also, AS2 might be used to deliver a new protocol payload document. So the combination of standard and custom components can be used to extend and reuse all the capabilities of WebSphere Partner Gateway.

## Section

***Architecture changes from V6.0 to V6.1***




The next section provides an overview of architectural changes from V6.0 to V6.1.

## Deployment and other changes

- WebSphere Partner Gateway V6.1 components (console, receiver and document manager) are Java EE applications. They are installed on single server or network deployment cell of WebSphere application server V6.1
  - Provides several new options of having different topologies
    - Simple mode
    - Simple distributed
    - Fully distributed
- WebSphere partner gateway V6.1 can now exploit the capabilities of WebSphere application server network deployment, namely the clustering and central point of administration




WebSphere Partner Gateway V6.1 components, namely, the receiver, console and the document manager are Java EE applications running in WebSphere Application Server V6.1 or WebSphere application server v6.1 Network Deployment cell.

These hub components can now take better advantage of underlying WebSphere Application Server infrastructure, including the clustering capabilities. It also provides you with several new options for your deployment.

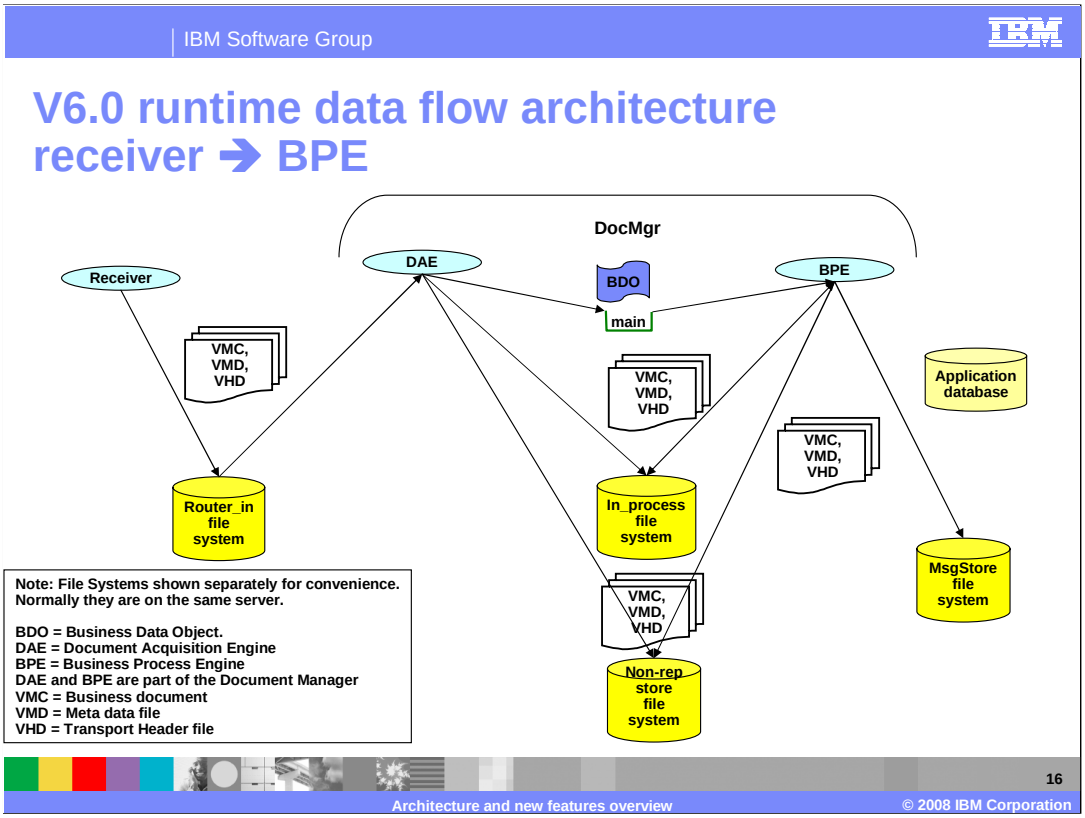
## Deployment and other changes (continued)

- Use of embedded messaging instead of WebSphere MQ
  - Reduces a product dependency
  - Distributed has separate messaging cluster, enabling HA
  - Requires a separate messaging (MAS) database
- Other – help system is now embedded in the hub console




The other change is the use of embedded messaging within the WebSphere Application Server for internal messaging needed between the hub components. In V6.0, WebSphere MQ provided that messaging function. WebSphere Partner Gateway V6.1 does not require WebSphere MQ for internal messaging. You can still use WebSphere MQ for external connection.

WebSphere Application Server Network Deployment capability of messaging cluster provides high availability for WebSphere Partner Gateway messaging. Messaging cluster is now used for high availability. By adding WebSphere Partner Gateway Messaging Application Servers (MAS) additional backup machines are available. Note that only one MAS server is actively processing messages at a time. A separate messaging database is required for persistence and sharing among the multiple hub components. The install presentation goes into more details of the deployment changes.

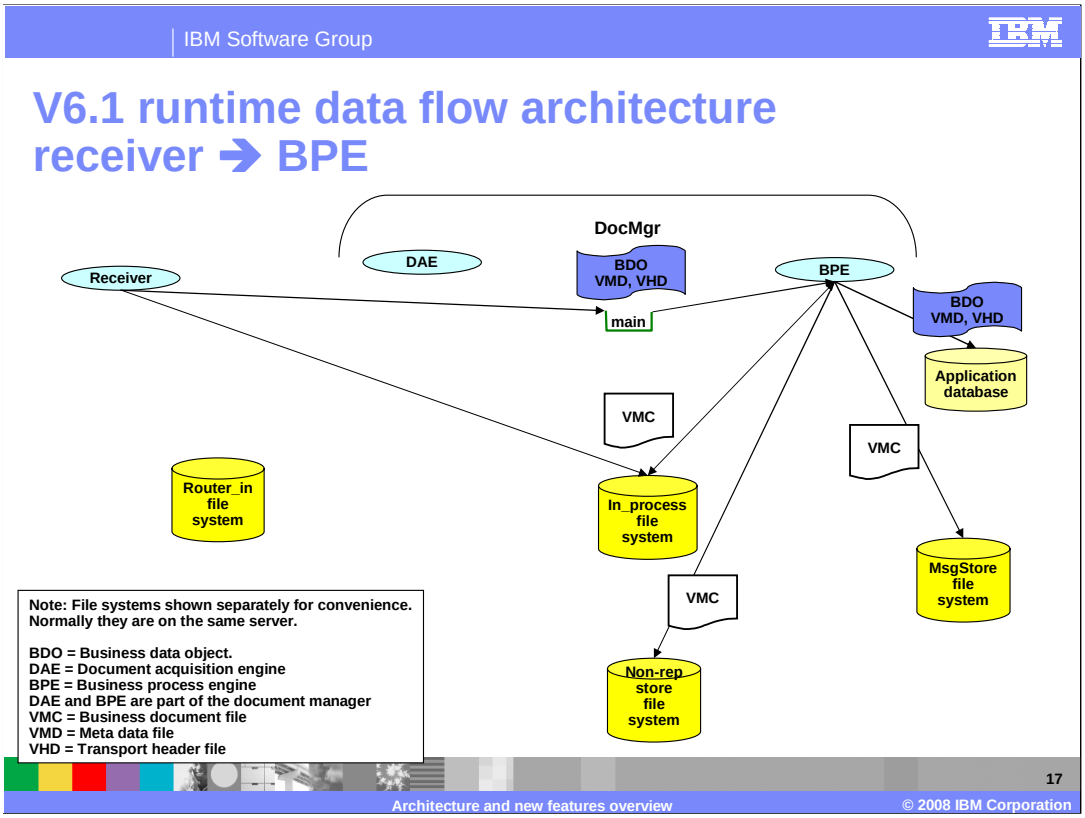



High level characteristics of the hub V6.0 data flow during runtime from the receiver to the BPE are as shown on this page.

The receiver creates three files: VMC for the business document, VMD for the metadata, and VHD for the transport header data and writes them into the “router_in” directory. The three files, VMC, VMD and VHD are file extensions.

The DAE retrieves the three files, non-repudiates the source, writes three files to the “in_process” directory, and creates BDO into the main queue.

The BPE retrieves BDO from queue, non-repudiates the source certificates, writes three files to message store, processes three files, and non-repudiates the target.

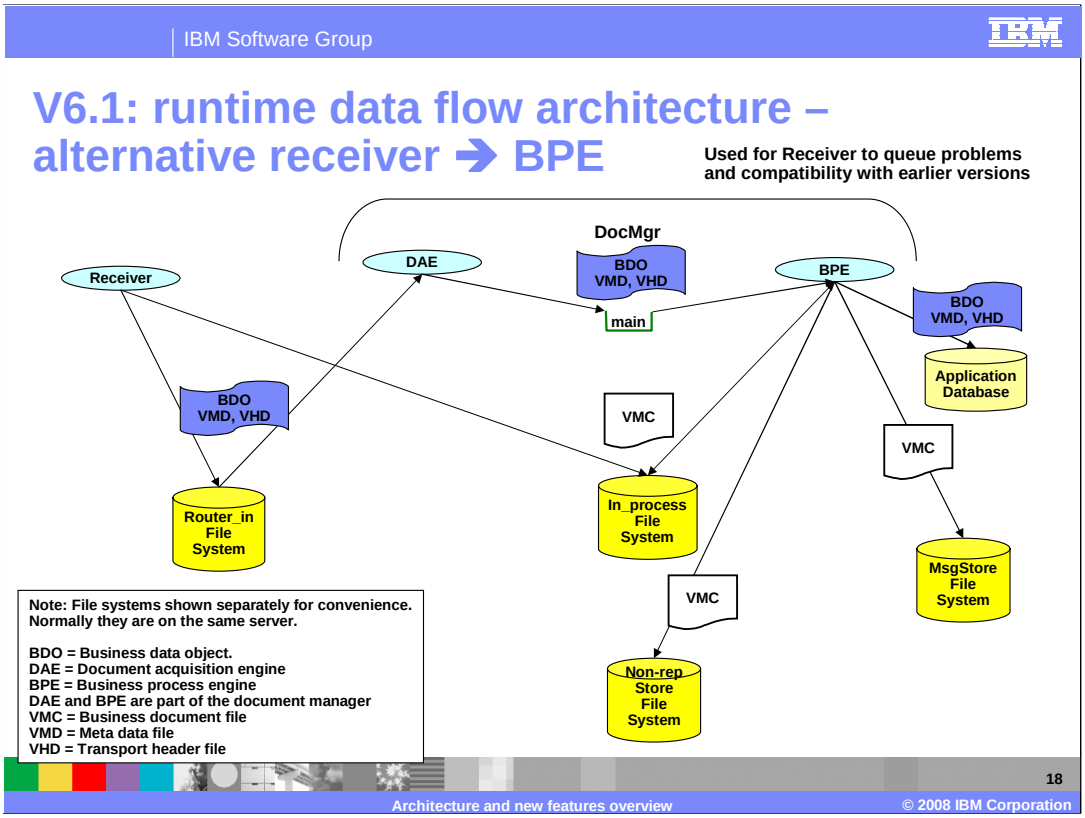



The high level characteristics of the WebSphere Partner Gateway V6.1 data flow during runtime from the receiver to the BPE are as shown on this page.

The receiver creates one file (VMC – business document) in the “in_process” directory and creates BDO (also contains VMD and VHD data) in the main queue. The BOD contains the VMD and VHD data as opposed to putting them in the files as in V6.0.

DAE is not used in this process. BPE retrieves BDO from queue, non-repudiates source document and certificates, writes VMC files to message store, processes one file, non-repudiates target and writes BDO to database.

The main differences between V6.0 and V6.1 are that in V6.1 DAE is now bypassed by the receiver. In V6.1 there is a single file, namely the VMC file for the business data. Also, in V6.1, the BDO contains the VMD and VHD data, and is stored into the database instead of the VMD and VHD files.




If either the main queue cannot be written to by the receiver or the bcg.global.common.introduce.document.transport attribute is set to file system, then V6.1 behaves like V6.0. In this case, the receiver still writes a single VMC file to the in_process directory, still creates the BDO, but puts the BDO into the router_in directory. The DAE retrieves the BDO and writes to the main queue. The BPE processing remains the same.

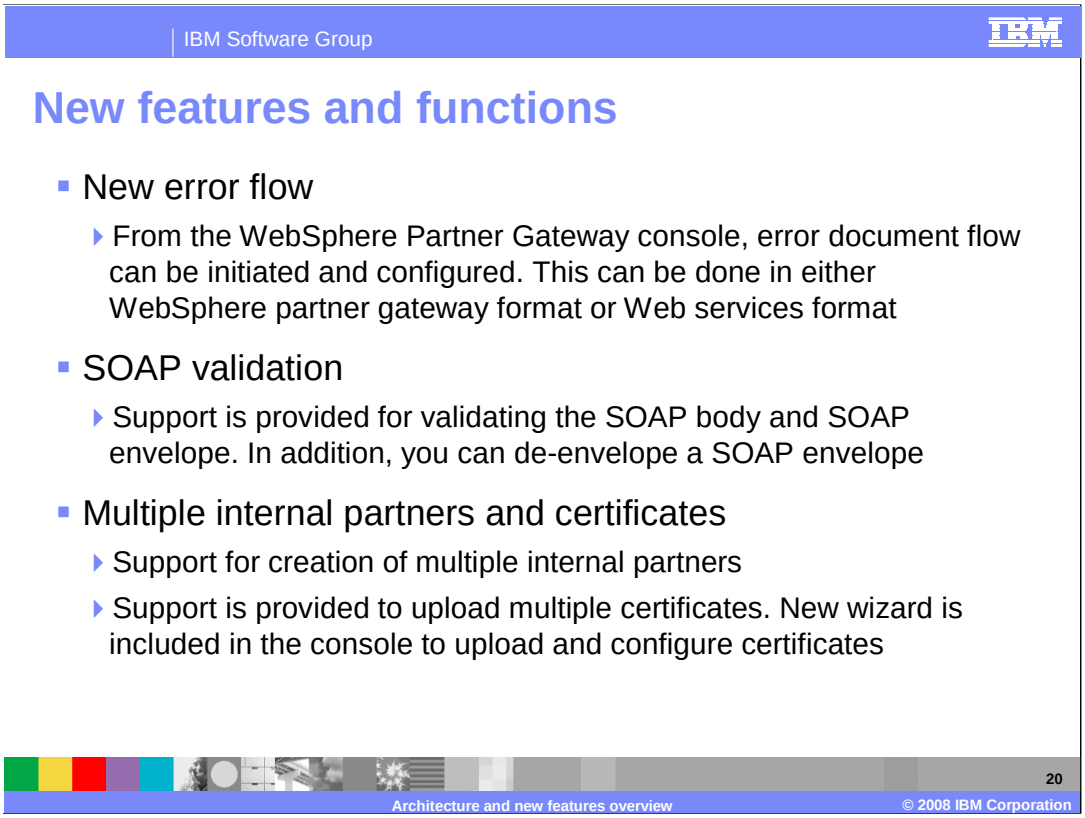
For compatibility with earlier versions, you can set the attribute as specified.

## Section

***What is new in V6.1.1***




The next section provides an overview on the new features in V6.1.1.




Here are the new features included in this release.

New error flow - from the WebSphere Partner Gateway console, error document flow can be initiated and configured in either WebSphere Partner Gateway format or Web services format.

SOAP validation support is provided for validating the SOAP body and SOAP envelope. In addition, you can de-envelope a SOAP envelope.

Also support for creation of multiple internal partners and uploading multiple certificates are provided. A new wizard is included in the console to upload and configure certificates.

## New features and functions (continued)

- Integrated FTP server
  - The FTP server is integrated with WebSphere Partner Gateway to support:
    - AS3 protocol
    - FTP scripting gateway
    - FTP scripting receiver
    - FTP / FTPS receiver and gateway
- Performance enhancements
  - Large file compression support is provided for AS2 and AS3 documents
  - The file archiving has been improved for high performance throughputs




Integrated FTP server – Where the FTP server is integrated with WebSphere Partner Gateway to support AS3 protocol, FTP scripting gateway, FTP scripting receiver, FTP / FTPS receiver and gateway.

In addition, performance enhancements, such as large file compression support is provided for AS2 and AS3 documents. The file archiving has been improved for high performance throughputs.

## New features and functions (continued)

- Basic authentication extended for all packaging
- Compression support for RNIF2.0 documents
- Synchronous time-out is now configurable
- Resend multiple documents from community console
- Support for FIPS
- Delete and where-used functionality extended for destination, validation maps, document definitions, interactions, and user
- New platform support for RHEL5(32 and 64 bit), SLES10(64 bit) and windows 2003 64 bit




The basic authentication is extended for all packaging. Basic authentication in the prior releases was something specific to SOAP, but now, this function is extended to support all packaging like AS, ebMS, and so on.

Compression support for RNIF2.0 documents is provided where you can compress payload or payload container in RNIF 2.0 to reduce message size during transmission.

The synchronous time-out is now configurable.

You can also resend multiple documents from community console by selecting the documents and submitting them for resending. In addition, support for FIPS is provided by the security functions.

The delete and where used functions are now extended to support some more artifacts like destination, validation maps, document flow definitions, interactions, and users.

Last but not the least, new platform support for RHEL5(32 and 64 bit), SLES10(64 bit) and Windows 2003 64 bit is introduced.

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## Section

***Summary***




The next section will provide a summary.

## Summary

- V6.1.1 new functions include
  - Error flow
  - SOAP validation
  - Multiple internal partners
  - Integrated FTP server
  - Performance enhancements
  - New improved basic authentication support
  - Compression support for RNIF 2.0




In summary, listed on the page are the new V6.1.1 functions. Details on some of these functions are provided in separate presentations.

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