QAD QXtend Release Notes

March 2010

These release notes include information about the latest fixes and changes to QAD QXtend version 1.6.3, comprised of QAD QXtend Inbound (QXI) and QAD QXtend Outbound (QXO). These changes may affect the way you implement and use these products.

Important Review this document and the QAD QXtend errata *before* proceeding with any phase of a QAD QXtend implementation.

These release notes are cumulative, with the most recent changes described first. Review the notes for all releases after your currently installed release. Installation and configuration changes may have occurred in those intermediate releases, and unless otherwise noted, apply to the release where they were announced, as well as subsequent releases.

QAD highly recommends that you implement the latest QAD QXtend release available. Check the QAD Web site to make sure you have the latest QAD QXtend release notes, installation errata, installation guide, and installation media:

http://support.qad.com/

Use the following list to find release notes for a specific product:

Release Notes for QXI

Release Notes for Current Version

QXI Server Version: 1.6.3

Date: March 2010

QAD ERP Application Compatibility: eB SP4 through current release

Supported Progress Releases: Progress 9.1E, OpenEdge 10.0B, 10.1A, 10.1B, 10.1C, 10.2A

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691E) and *Installation Guide: QAD QXtend* (78-0692E)

New Features

1. **Installer enhancements.** Several significant enhancements have been made to the installer:
   - The installer allows the loading of an initial default configuration at install time. This provides an easy out-of-the-box solution to common interoperability scenarios.
   - The installer allows the user to perform an in-place upgrade without the need for a first successful installation.
   - The installer allows the user to pause, stop, restart and re-run steps within the installation. This feature provides better control on installation.
2. **Menu security check.** Before processing a Qdoc, QXtend Inbound checks whether the user has access to the corresponding menu. If not, QXtend Inbound returns an error “User does not have the access to the menu.” The menu security check applies to all API types for all supported versions beginning with eB2.
3. **QAD QXtend Excelerator.** QAD QXtend Excelerator is an optional data integration tool within the QAD QXtend interoperability framework that provides additional data visibility and manageability to the data integration process between QAD products. The Excelerator is seamlessly integrated with Microsoft Excel 2007 as a document-level customization. The tool provides functions for easily designing spreadsheets for retrieving data from the source QAD application, viewing and modifying data in the worksheets, and synchronizing data with the target QAD application, all in a familiar and intuitive user interface.

   QAD QXtend Excelerator is on a separate CD and has its own Release Notes and User Guide. It is used in conjunction with QXtend Inbound and Outbound, which must be properly implemented before you can use this tool.

   A free trial version of QAD QXtend Excelerator ships with QAD QXtend for initial data load and go-live implementation. However, further use of this tool for data integration and communication on a day-to-day basis requires a separate license.

Fixes

Fix Description	Internal ID	Issue Affected Versions
The SIAPI Connection Pool idle time out does not fire when the agent is in a busy state. In previous versions, in this situation, idle time out still fired, which prematurely shut down the agent.	QXT-439	1.4+
QXtend adapter does not hang up in certain situations when it cannot successfully log in.	QXT-480	1.6.2
When Audit Trail is turned on, Product Structure Maintenance works correctly without displaying the error “no ps_mstr record available.”	QXT-482	1.6+
Previously, when there were parent-child selection lists, the child list always returned an error when accessed for the second time. Now this has been fixed.	QXT-621	1.1+
When a Qdoc is submitted with a date field with the attribute xsi:nil = “true,” QXI designates “?” as the value of the field, which can blank the field out. Previously, QXI was not able to blank out the field when it retained the previous value.	N/A	1.4+

Known Issues

1. When `scopetransaction` is set to `false` and a QDoc contains multiple requests for native APIs, if an error occurs in one request, subsequent requests are not processed.
2. Error messages like “URL: is not a valid URL” can be found in the qxosi_AS appserver log, but they do not affect anything and can be safely ignored.

Release Notes for Version 1.6.2

QXI Server Version: 1.6.2

Date: September 2009

QAD ERP Application Compatibility: eB SP4 through current release

Supported Progress Releases: Progress 9.1E, OpenEdge 10.0B, 10.1A, 10.1B, 10.1C, 10.2A

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691D) and *Installation Guide: QAD QXtend (78-0692D)*

New Features

1. **Installer enhancements.** Several significant enhancements have been made to the installer:
   - The QAD Deployment Configuration Service (QDCS) must now be used for all installations and upgrades—QAD QXtend can no longer be installed manually.
   - The installer now has two installation options: Typical and Advanced. Typical installation allows the product to be installed quickly using default parameter information from the QAD QXtend configuration that is provided with the product. Advanced installation allows a custom configuration to be defined; any default parameter information can be modified using the advanced installation option.
   - It is now possible to specify whether to use client/server mode when connecting to the QXO database and/or the qxevents database.
2. **WSDL generation.** You can now create a WSDL on demand rather than store the WSDL on the server. In addition, each WSDL can contain more than one QDoc definition, allowing multiple APIs to be combined into one WSDL file for a selected receiver. All the request and response schemas are included and can be saved to a client. To generate a WSDL, select a receiver and then click the Generate WSDL button. The wsdl directory no longer exists in the QXtend Inbound web application since WSDL files can be generated using the Generate WSDL button.
3. **API publishing.** This feature improves the integration between QXI with QXO and Qgen. QXI enables QAD application APIs to be called via Web services. Every API that QXI exposes requires details about the request and response schemas, and these can now be added without having to enter them through the user interface.
4. **Native API framework enhancements.** The framework now supports customizations using either the .NET UI or the Integration Customization Toolkit (ICT). The framework supports features such as default values, disabled fields, custom validations, additional fields and frames, shadow tables, and custom programs.
5. In addition, the current version contains several general enhancements designed to improve usability.
   - **Receiver-level authentication.** QAD QXtend now allows a receiver to be defined to always require QDocs to contain authentication information consisting of either a user name/password combination or a session ID. In previous versions, `useQDocRequestor` determined whether the QDoc needed to contain authentication information; this option has

now been removed. To enable receiver-level authentication, select the Require Authentication check box in the Modify Receiver dialog box. If the QDoc does not contain authentication information, QAD QXtend will reject the QDoc. If the Receiver Authentication check box is not selected, by default the system uses the authentication information from the connection pool.

- **QDoc authentication.** In previous versions, QXI verified QDocs by using the credentials in the QDoc only if the system-wide useQDocRequestor setting was enabled; otherwise the credentials specified in the connection pool were used. In the current version, if the QDoc contains authentication information, QXtend always uses this information to authenticate the QDoc. This helps in situations where the application needs a detailed audit trail by user, but you do not want to require all QDocs to contain authentication information.
- **Session context.** For service interface APIs, the session context is now returned to the caller. This helps speed up processing since the session context now contains the session ID code, which can be extracted from the response and reused in subsequent requests.

Fixes

1. The QXtend service interface adapter now validates blank dates and invalid months entered in QDocs. If an invalid date is entered, QXI now issues an exception instead of parsing it into a wrong date, as in previous versions. In the current version, it is now possible to send a blank date in a QDoc.
2. The support for pre/post-processing has been enhanced for the Windows platform. Previously, there were occasions when the pre-process and post-process communication would time-out, resulting in inconsistent data being captured in the response QDoc. This fix also ensures messages that extend beyond one message line are captured.
3. Previously, the date format in a QDoc was hardcoded to a month/day/year format. In the current version, the date and numeric format are taken from the active Progress session.
4. If there is an error—in a user name or password, for example—the system now returns messages correctly rather than exiting abnormally.

Known Issues

1. When `scopetransaction` is set to `false` and a QDoc contains multiple requests for native APIs, if an error occurs in one request, subsequent requests are not processed.
2. In an AIX environment, if a QDoc has many XML comment lines, the preprocessing program may return an error. You can avoid this situation by removing the XML comments from the QDoc.

Release Notes for Version 1.6.1

QXI Server Version: 1.6.1

Date: June 2009

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691C) and *Installation Guide: QAD QXtend (78-0692B)*

Important If you are using QAD 2009 EE or SE, you must use Qxtend version 1.6.1.

Fixes

1. When installing QAD QXtend using the console mode and a local repository, and the file specified is not found, the system now displays a correct warning. Previously, in this situation a message displayed stating that there was nothing to install on the host.
2. In the previous version, double-byte characters in a QDoc caused the system to return an error in certain situations; for example, if they were used in a filter in a QDoc for the Query Service.
3. The handling of spacebar processing has been enhanced. Previously, when dealing with certain types of QDocs, the slow handling of spacebar processing adversely affected the performance of QXI.
4. Previously, when QXI processed QDocs to QAD Enterprise Application with a non-ISO 8859 code page, if the QDoc used special characters (including double-byte characters) and a preprocessor was defined for the QDoc, the system gave error `EventException019`. QDocs in this situation can now be processed without error.

Known Issues

1. In an AIX environment, if you use the 1.0 syntax specification with your QDocs, the post-processing program may return an error even though processing was successful. You can avoid this situation either by using the QDoc 1.1 specification instead, or by increasing the Message Timeout value for the QXI connection pool.
2. When `scopetransaction` is set to `false` and a QDoc contains multiple requests for native APIs, if an error occurs in one request, subsequent requests are not processed.

Release Notes for Version 1.6

QXI Server Version: 1.6

Date: April 2009

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691C) and *Installation Guide: QAD QXtend (78-0692B)*

Important If you are using QAD 2009 EE or SE, you must use Qxtend version 1.6.

Application Changes

1. It is now possible to create more than one connection pool for the same receiving application. This allows one receiver to have connection pools to the Service Interface AppServer, Financial AppServer and the UI adapter.
2. Significant enhancements have been made to the QAD QXtend installer. For details see “Installer” on page 32.

Fixes

1. QDoc schemas have been added for the Commodity Code Maintenance (1.4.19, `ppcommt.p`) API. In addition, this program now can be mapped successfully using the QAD QXtend QGen utility.
2. The QXtend service interface adapter now validates dates entered in QDocs. If an invalid date is entered, QXI now issues an exception instead of parsing it into a wrong date, as in previous versions.
3. The system now correctly validates the operation tag value. If the operation is invalid, the system issues an exception.
4. If `scopeTransaction` is used and a transaction is rolled back, the system returns an exception message.
5. The current version supports the 1.1 syntax for Sales Order Shipments (7.9.15). In previous versions, a missing mapping element prevented QGen from mapping this program successfully.
6. The current version of *Technical Reference: QAD QXtend* incorporates errata that were issued for the 1.5.1 release documentation. The errata sheet is accessible from http://support.qad.com/.

Known Issues

1. Certain double-byte characters do not work with the SI API adapter. If you are affected by this issue, contact QAD Support for a patch that you should install.
2. In an AIX environment, if you use the 1.0 syntax specification with your QDocs, the post-processing program may return an error even though processing was successful. You can avoid this situation by using the QDoc 1.1 specification instead.
3. When installing QAD QXtend using the console mode and a local repository, if the file you specify is not found, no warning is returned; instead, a message displays stating that there is nothing to install on the host.
4. In a QDoc containing multiple requests for native APIs, if an error occurs in one request, subsequent requests are not processed.

Release Notes for Version 1.5.1

QXI Server Version: 1.5.1

Date: September 2008

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691B) and *Installation Guide: QAD QXtend* (78-0692B)

Application Changes

1. The code API has been obsoleted and replaced with the service interface API.

Fixes

1. The system now verifies that the operation tag in the QDoc request is A, M, R, or S.
2. The system now populates the response iteration correctly with the XML data from the post-processor program.

Known Issues

1. If you are using a Tomcat installation that has the JDK 1.4 Compatibility package installed, QXI may return incorrect SOAP fault error messages due to the XML being processed by the wrong parser. For example, the error message may state that a QDoc response cannot be created, when the fault is actually an invalid receiver name or incorrectly formatted QDoc request. To prevent this, you must uninstall the JDK 1.4 Compatibility package from your Tomcat installation.

Release Notes for Version 1.5

QXI Server Version: 1.5

Date: May 2008

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691B) and *Installation Guide: QAD QXtend* (78-0692B)

New Features

1. You can now configure licensing for QAD QXtend using a new tab in QXI. When QXtend is first installed, the installation defaults to a data synchronization license. This license enables QXtend to process data synchronization and QAD internal messages. In order for QXtend to communicate with other products, you must submit a license code issued by QAD.

   QXtend licensing is based on a hierarchy of the base module, receivers, and agents. Each is individually priced. The base module requires a number of receivers and agents, and each agent is coupled with an additional receiver. The base module becomes available when you enter a valid license.

   There are three types of licensing:

   - Standard
   - Enterprise
   - Data Synchronization

   Standard licensing limits the number of agents and receivers that can be used across QXtend. Enterprise licensing allows unlimited receivers and agents. It is generally used in implementations where the total number of receivers exceeds 47 or the total number agents exceeds 68. Data synchronization licensing is used to support internal messages between QAD products.

2. The new License Manager enforces QXtend pricing and licensing using a web service, which controls the release of receivers and agents. The License Manager lets you limit the total number of licensed agents, monitor the release of licenses, and track the number of receivers in use. It is located within QXtend Inbound, and supports a single instance of QXtend.

   - A new License Administration window lets you submit the license code.

     When QXtend is first installed, the installation defaults to a data synchronization license. This license only permits data synchronization and QAD internal messages to be processed. In order for QXtend to communicate with other products, you must record a license code issued by QAD.
   - The new Data Synchronization QDoc report displays data on the data synchronization QDocs processed by a specified schema in QXtend Inbound.
   - The new QXtend Inbound Usage report displays the number of messages processed through QXtend Inbound.

3. There are two new fields in the Connection Pool window for QXtend licensing: Max Licensed Agent Retry and Wait Time for Licensed Agent.

   - Max Licensed Agent Retry lets you specify the number of times the system attempts to reserve a licensed agent before returning an exception.
   - Wait Time for Licensed Agent lets you specify the number of milliseconds that the system waits for a licensed agent.

4 For eB2.1 and higher, a new Licensed Domains field in the Add Receiver window lets you assign a list of valid domain codes when you define a new receiver. The License Manager then rejects any QDoc for an undefined domain.

When adding receivers for eB and eB2, the Add Receivers window does not show a list of licensed domains. You must select the new Licensed check box to indicate whether the receiver will be processing requests that require a licensed agent.

Release Notes for Version 1.4

QXI Server Version: 1.4

Date: September 2007

MFG/PRO Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691A) and *Installation Guide: QAD QXtend* (78-0692A)

New Features

1. You can now configure QXI to generate and distribute e-mail alerts that are raised by QXI for events relating to specific receivers, domains, and APIs. Similar e-mail alert functionality—providing alerts for subscribers and profiles—is available in QXO.

2. You can now synchronize data between instances of QAD applications or with external systems using QXtend. QAD QXtend version 1.4 introduces several enhancements that will support interoperability with the QAD Enterprise Applications 2008 (QAD 2008) Financials module when available.
   - A service interface layer has been developed to permit QDocs to be routed through a new service interface adapter. To support this routing, a receiver must be associated with an API that uses the SIAPI adapter route and the AppServer `ubroker.properties` setup file must be modified to include the service interface.
   - QXO can now accept (and publish) raw business object event data from modules such as the QAD 2008 Financials module. See “Release Notes for Version 1.4” on page 37 for details.
   - A new QDoc standard has been introduced. See point 3 below.

3. To make QDocs compliant with the industry standards for message identification used by the service interface layer, the QDoc syntax has been extensively modified. In addition, Progress also has adopted XML notation that required modifications to the existing QDoc standard. QAD QXtend release 1.4 supports both QDoc 1.1 and 1.0 syntax versions.

   The new QDoc 1.1 syntax specification introduces numerous modifications, including the following:
   - The SOAP header has been modified in several ways.
     - For both QDoc standards the namespace for the SOAP envelope has changed from `http://www.w3.org/2002/06/soap-envelope/` to `http://schemas.xmlsoap.org/soap/envelope/`. The original namespace has been obsoleted. The SOAP encoding namespace also has been removed from both SOAP envelopes.
     - The receiver was previously passed as a parameter in the URL in the `receiverId` node. It is now the third entry in the URN of the `To` node.
     - The `suppressResponseDetail` parameter in the 1.0 syntax was an attribute of the root node for the QDoc body. In the 1.1 syntax, this attribute is now a node in the SOAP header `ReferenceParameters` section.
     - The value of SOAP header attribute `mustUnderstand` has changed from `true` to 0.
   - Arrays in the QDoc 1.0 syntax were represented like this:

```
<soSlspsn enc:arraySize="4">
    <entry index="1">CDO</entry>
    <entry index="2">GDB</entry>
    <entry index="3">HDA</entry>
    <entry index="4">JP</entry>
</soSlspsn>
```

In the QDoc 1.1 syntax, array structures are represented in QDocs by having multiple entries of the node. Indexing is achieved by the order in which the node appears in the XML. For example, the above array is represented in the 1.1 syntax like this:

```
<soSlspsn>CDO</soSlspsn>
<soSlspsn>GDB</soSlspsn>
<soSlspsn>HDA</soSlspsn>
<soSlspsn>JP</soSlspsn>
```

For details about the QDoc 1.1 syntax specification, see Chapter 20, “QDoc Structure Reference,” and Chapter 23, “QDoc Specifications and Standards” in *Technical Reference: QAD QXtend.*

4 QXI has a new GUI-based installation program designed to simplify the installation and deployment of the QAD QXtend components. The installation supports single-tier and multi-tier mode installation. The installation has a Parameter Service that allows an administrator to enter parameter information that describes their existing environment. The settings stored in the Parameter Service are used to guide the QXtend installation and deployment behavior. For details see *Installation Guide: QAD QXtend*.

5 The number and type of exception codes has been enhanced. There are now codes for transformation, internationalization, and reflection exceptions. New codes have been added for event, connection, queue, transaction, adapter, QDoc, configuration, and failure exceptions.

6 QXI now supports Secure Sockets Layer (SSL), both self-trusted and true-trusted certificate.

7 Operation tags are now validated in the request QDoc. This means that QXI validates that the operation tag is A, R or S.

Known Issues

1 If you intend to use the service interface layer, you must first obtain a patch for Progress from QAD Support. This patch is only available for Progress OE10.1B02.

2 If you use `suppressResponseDetails`, only the error message is returned—not any associated traceability details, such as sales order numbers for sales order transactions, for example. There are two solutions:

- Use the Message Monitor to trace into the affected record.
- Call QAD Support for a hotfix.

This known issue only affects integration into third-party applications, not QAD-to-QAD applications.

3 If you use `scopeTransaction` and an error occurs during processing, the transaction is not backed out correctly. If this happens, call QAD Support for a hotfix.

Release Notes for Version 1.3

Date: March 31, 2007

MFG/PRO Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend Inbound* (78-0665A)

Important This release of QAD QXtend incorporates core features of the QAD Data Synchronization product, which was an extension of the QAD Q/LinQ product. QAD Data Synchronization will be discontinued with the next major QAD release. In addition, Q/LinQ is no longer being actively developed. QAD QXtend is now the solution offered by QAD to meet the needs of its customers for a robust data synchronization tool.

Note For this and future releases of QAD QXtend, release version numbers for both QXI and QXO have been synchronized to 1.3.

New Features

1. You can now control the display of messages that arise from unused fields and iterations in response QDocs by using the `excludeUnusedWarnings` node. By default, the display of these messages is suppressed.

   To include messages for unused fields and iterations, edit the `qxtendconfig.xml` file and set the `excludeUnusedWarnings` node to `false`.

2. You can now control whether during application processing the QDoc should send the language-specific mnemonic, or whether the numeric code should be sent instead. To send the language-specific mnemonic, set the value of `mnemonicsRaw` to `False`; to send the numeric code, set the value of `mnemonicsRaw` to `True`.

3. You can now include the optional query parameter `domain` in the URI in order to identify the receiving domain within the MFG/PRO database. The syntax of this query parameter is shown in the following example:

   ```
   http://anyBaseURI/path1/path2?connection=yourQueue&amp;receiver=
   yourCompany&amp;domain=yourdomain&amp;
   ```

   If this optional parameter is omitted, the QDoc will use the domain that is specified in the Domain field in the Connection Pool Manager for that procedure.

4. You can now use the Test Harness function in the QXtend Manager to validate a receiver for a UI Adapter connection. This method allows you to test the UI adapter without having to create QDocs that contain dummy data.

   In the Receiver field, enter the name of the MFG/PRO session you want to connect to—for example eB2.1. If you employ a User ID and Password to connect to the target MFG/PRO instance, you must complete the fields in the Requestor Details section. When the QDoc is submitted, a message displays stating whether the QDoc was successful.

5. You can now view the telnet screen for the connection being used to import data from a QDoc when that QDoc is being processed. A new column called View has been added to the Connection Pool Manager. Clicking the View link displays the telnet screen. If there is an error in the QDoc, the scrolling of the QDoc on the telnet screen halts at the location of the error. When finished testing your connections, choose the Stop link, which displays next to the Start link.

Fixes

1. Previous versions of QAD QXtend are compatible with the double-byte character set but not with Unicode, which caused problems when attempting to represent some Chinese language characters. The new version of QAD QXtend is compatible with Unicode, resolving this issue.

2. If you are operating in an HP-UX or Tru64 environment, you can now avoid a `FailureException` or `AdapterException` response by adding the following line to your connection script:

   ```
   stty -icanon
   ```

Release Notes for Version 1.2.1.6

QXI Server Version: 1.2.1.6

Date: May 12, 2006

MFG/PRO Compatibility: eB through eB2.1

QAD QXtend Documentation: *Technical Reference: QAD QXtend Inbound* (78-0602F)

New Features

1. You can now specify for each QXI queue whether it should operate in single or multi-threaded mode. Using a combination of single and multi-threaded queues lets you maximize throughput while guaranteeing that a QDoc that depends on a previous QDoc is not processed before the previous QDoc completes.

   To support this feature, you can now specify Thread Settings when you set up a queue in the Queue Manager, including the initial size, maximum size, Web service time-out, and retry time.

2. QXI now provides a view that system administrators can use to investigate QDocs that have not returned a response, but remain in a processing state.

   If an issue such as a record lock or other error is preventing a QDoc from completing an update, the QDoc waits in the processing state until it times out. It then returns a response with details about the failure. In some critical situations, users need to know immediately that a problem exists, without waiting for the time-out.

   An administrator can now use the Connection Manager to view the telnet screen of a session in the processing state to determine the source of the issue. This is done by clicking the View link that displays in the Connection Manager screen under the Close column.

   Note The View link displays only for a QDoc in the processing state.

3. You can now set up receivers and schemas explicitly for MFG/PRO eB2.1. Previously, users with eB2.1 environments used the eB2 schemas and receivers, which could cause confusion.

4. This release of QXI provides support for users who have installed Advanced Inventory Management (AIM) 2.3c. To enable this support, you must install a patch required by the AIM installation. Copy the include file in the following directory on the CD to your AIM installation directory and compile the code using the AIM compile tools.

   `qxtend/aim/23c/xrc`

   Note This patch will be included in the AIM 3.0 release.

Release Notes for Version 1.2.1.5

QXI Server Version: 1.2.1.5

Date: January 13, 2006

MFG/PRO Compatibility: eB through eB2.1

QAD QXtend Documentation: *Technical Reference: QXtend Inbound* (78-0602E)

New Features

1 QXI is now fully compliant with environments using Progress Open Edge 10. In addition, certification has been done for use of QXI with Apache Tomcat 5.x.

Release Notes for Version 1.2

QXI Server Version: 1.2

Date: June 30, 2004

MFG/PRO Compatibility: eB through eB2.1

QAD QXtend Documentation: *Technical Reference: QXtend Inbound* (78-0602D)

New Features

QAD JIT Sequencing (JIT/S) Support Added

JIT Sequencing (JIT/S) is QAD's configurable, just-in-time plant scheduling and execution application. Base data in JIT/S, such as items, customers, ship-tos, carriers, and sales orders, are maintained in QAD's MFG/PRO. This data is uploaded to JIT/S during implementation and is synchronized between the two applications by database triggers in MFG/PRO and an integration framework based on QXI. In turn, JIT/S sends inventory backflush information to MFG/PRO through QAD QXtend to create the required inventory and financial transactions. QXI also supports JIT/S integration with shop floor programmable logic controllers (PLCs).

To support this integration, the QXI Connection Pool Manager has been enhanced to manage JIT/S API pools.

Capability to Transform Non-Standard XML Documents

QXI Queue Manager can now accept non-standard XML documents and transform them into QDocs with a valid SOAP envelope using the new QAD QXtend transformation engine. The transformation engine is triggered when an XML document arrives with an extension other than the standard `.req` extension. Depending on the file extension, an XSLT style sheet is applied to the document to generate a valid QDoc, a SOAP envelope is added, and the new QDoc is sent to the correct Queue Manager directory with the `.req` extension.

The transformation engine ensures all the linkages between directories, file names, and processing flows. Individual companies must provide their own XSLT style sheet transformations for the transformation engine to use.

Release Notes for Version 1.1.2

QXI Server Version: 1.1.2

MFG/PRO Compatibility: eB through eB2.1

QAD QXtend Documentation: *Technical Reference: QXtend Inbound* (78-0602C)

New Features

Minimum Connection Pool Sessions Maintained

The Connection Manager has been enhanced to reduce and maintain the number of idle sessions at a minimum level. At regular intervals, each connection is checked as specified by the Connections Monitor Frequency field. If a connection is idle for longer than the Connection Timeout value, and there are more connections open than the number of Minimum Connections specified, the connection is closed.

Ensure Session Log-Out to Reduce User-Count Records

The Connection Manager has been enhanced to remove orphaned user-count records. Orphaned user-count records may be caused by QAD QXtend being unable to log out in the cases where the MFG/PRO database is shut down, or due to a processing error in submitting a QDoc. QAD QXtend now monitors all sessions to ensure the log-out sequence occurs. Any orphaned user-count records are now removed when restarting the QXI server.

Processing Allowed for QDocs with Carriage Returns

The QXI Server can now process poorly formatted QDocs, which contain carriage returns, through the Web service.

View QDoc IDs in the Connection Manager

The Process ID and Device ID of the last QDoc processed can now be viewed in the Connection Manager UI. This is populated on initialization of the QDoc. This functionality requires a Progress version 9 database or higher.

Third-Party API Support Added

Support has been added for third-party APIs such as Vertex.

Load Event File Validation Added

The Load Event File UI now validates the entered values.

Fixes

1. The time taken to process a QDoc is now recorded to avoid connection resets when a QDoc takes longer to process than the specified Connection Timeout. Previously, the processing time was not recorded and the session was assumed to have exceeded its inactive idle period. The QDoc response returned with the exception QDocExceptionex020.
2. Corrected general stability issues in the Connection Manager.
3. QDoc Response schemas are now deleted from memory when a QDoc schema is deleted. Previously, this was not done.

4. Removed the User IP Address from the Connection Manager UI because it had no functionality.
5. Only six different Connection Pools could be viewed under the Delete Connection Pool menu in the Connection Manager UI. This defect is fixed in this release.
6. Fixed a misnaming of the `receiveDistributedOrder` QDoc in the descriptors file.

Release Notes for Version 1.1.1

QXI Server Version: 1.1.1

Date: June 14, 2004

MFG/PRO Compatibility: eB through eB2.1

QAD QXtend Documentation: *Technical Reference: QXtend Inbound* (78-0602C)

Fixes

1. Fixed incorrect reporting of defect when a QDoc failed to process. If QAD QXtend fails to launch the correct MFG/PRO program, a process exception (EX007) occurs. This exception now contains the correct Progress or MFG/PRO error detail.
2. When a field validation in MFG/PRO caused the session to end, QAD QXtend was unable to recover and a process exception (EX003) was returned in the response QDoc. The MFG/PRO error is now returned in the exception detail, even when the program terminates abnormally.
3. A session can no longer begin processing when a program has failed to initialize. If initialization fails, the session is now reset immediately. Previous releases required a time-out to pass before resetting the session.
4. QAD QXtend was not reporting Progress errors and warnings that occurred during initialization of a program. These are now returned in the response QDoc.
5. If the specified events file for a schema did not match the name of the MFG/PRO program and `suppressResponseDetails` was set to `false`, an error occurred in the QDoc. This is fixed in this release.
6. If fields within a request QDoc are unused during processing, a warning is now returned in the response QDoc listing those fields. Previously, the warning was not added to the response QDoc.
7. An error no longer occurs when the Queue Manager adds a SOAP envelope to a request QDoc that includes long lines of text.
8. Updates have been made to ensure QDoc preprocessing and response QDocs are supported for MFG/PRO version eB running on Progress version 9.1C and above.
9. Detailed information on exception error messages has been added to *Technical Reference: QXtend Inbound*.

Release Notes for Version 1.1.0

QXI Server Version: 1.1

Date: February 1, 2004

MFG/PRO Compatibility: eB through eB2.1

QAD QXtend Documentation: *Technical Reference: QXtend Inbound* (78-0602B)

New Features

Enable Requestor Licensing and Validations

QAD QXtend now licenses requestor applications. This feature allows administrators to ensure incoming data is from a known and trusted source. At least one requestor license is required to run QAD QXtend; the implementation of the validation in the QDoc request SOAP envelope is optional.

Security Enhancements

In addition to the validation of the requestor type in the SOAP envelope, QAD QXtend also validates the requestor applications user ID and password. On receipt, if the ID and password are validated, the password is encrypted.

The connection pool manager now accepts an encrypted password, which is stored in the QAD QXtend startup scripts as a variable.

In addition, QAD QXtend now operates over Tomcat with Secure Socket Layer (SSL) on HTTPS.

Suspend/Resume of the QAD QXtend Environment

Administrators can now suspend QAD QXtend processing from within the application interface in order to make configuration changes. This prevents partial or corrupted QDoc cycles, and substantially reduces the time and communication required to make changes.

Improved QDoc Response Documents

Error states, data values, and unused schema components are all valuable information for assessing effectiveness and debugging problems in an interoperable environment. QAD QXtend 1.1 allows users to include all these types of information, some of it configurable based on need, in the QDoc response. Four specific enhancements provide this capability:

Return MFG/PRO Data

Returning MFG/PRO data in the response documents is configurable. The feature can be turned on and off with a simple modification of a configuration attribute. The administrator can also determine the exact field list for each MFG/PRO calling program by modifying the appropriate QDoc response schema. By default, the included fields are primary key values.

Warnings for Unused Fields and Iterations

The notification of unused fields and iterations is now always returned in the response document. This informs an administrator when primary key fields or data iterations have not been updated in MFG/PRO. Typically these are empty fields or iterations, and should be unused. That information may be used to improve performance of future schema builds. In other cases, this notification isolates important data problems that could be misdirecting a QDoc during processing.

Enable Java Trace

Java information is helpful in debugging connection and processing problems. You can now modify a configuration attribute to include the Java trace data for a QDoc cycle in the QDoc response document.

Return Data Length Errors

Another notification that is always included in QAD QXtend 1.1 response QDocs is over-length field values. This assists administrators in isolating and solving one of the most common data errors in an interoperable environment.

Multiple Events Files Per Run Program Supported

In order to support multiple processing paths and incremental performance improvements, QAD QXtend now allows users to maintain and run QDoc schemas with different events files for a given MFG/PRO calling program. Events files control the navigation of a QDoc through an MFG/PRO calling program. Maintaining multiple versions allows administrators to provide navigation paths for different data entry tasks within a single calling program, as for confirmed and unconfirmed sales orders, since in the latter, tax and other trailer frames may not appear.

Pre- and Postprocessing Enhancements

The QAD QXtend preprocessor can call custom programs to validate or, as of version 1.1, modify inbound QDocs prior to writing data to MFG/PRO. The preprocessor programs can eliminate MFG/PRO errors, filter required records, eliminate records based on unique sets of criteria, and add or remove data as required.

The new postprocessor capability is similar but is used to validate and modify the response document contents. One example is obtaining updated data from MFG/PRO, such as line item prices that changed after the initial data update from the QDoc request.

Schema Merges Completed in a Web Service

Request and response QDocs are made up of two schemas and an events file. To allow administrators to merge the two schemas for testing and review, a new Web service method has been added.

Installation of Standard APIs from QAD QXtend Web Site

All API installations from the Web in the past were seen as custom schemas in QAD QXtend. The standard APIs from the QAD Web site are now installed as standard schemas by default.

Fixes

1. Patched `myQdocWebService.wsdl` file to remove undefined and recursive types generated by AXIS Java2WSDL utility.
2. Added ability to add custom schema without raising an error when a custom schema by the same name already exists.
3. Updated security to force log-in on all files accessed within QXI.
4. Added fix to format `.xml` files correctly when writing to disk.
5. Fixed a problem with Supplier Schedule event mapping that required a key to be sent to MFG/PRO in order to enter an iteration.

6 Replaced use of `pxrun.i` with `gprunp.i` for context fix code to support compatibility with MFG/PRO eB.

7 Corrected the Cancel function to function without raising an error.

8 Modified Yes/No values in events files to the translatable values of True/False.

9 Improved error reporting when server or MFG/PRO connections fail.

10 Fixed installation so Queue Request/Response/System Failures directories and log directory are created on installation of QAD QXtend.

11 Updated the delete event functionality to unload an events file that is currently in memory when it is being deleted. Updated the add event functionality to remove any currently loaded event file from memory.

Release Notes for Version 1.0

QXI Server Version: 1.0

Date: December 5, 2003

MFG/PRO Compatibility: eB through eB2

QAD QXtend Documentation: *Technical Reference: QXtend Inbound* (78-0602A)

Fixes

1. A transaction exception could get raised, and a session shutdown, during long-running but active QAD QXtend sessions. This occurred because QAD QXtend was not updating the time when active communication between QAD QXtend and MFG/PRO last took place. Added a last-accessed time for every QXI session.
2. Incorrect mapping of the `sodline` field has been mapped in this release.
3. Fixed a problem where using an alternative namespace prefix to `qdoc:` caused a request QDoc to be rejected with a malformed request QDoc exception.
4. Corrected namespace prefix problems in the Exception node. An exception is created in two different places; one place did not have namespace added to it.
5. Fixed a problem where the SOAP version was 1.1 when a SOAP fault was created. Default version set to SOAP 1.2 on SOAP envelope created within QAD QXtend.

Release Notes for QXO

Release Notes for Current Version

QXO Server Version: 1.6.3

Date: March 2010

QAD ERP Application Compatibility: eB SP4 through current release

Supported Progress Releases: OpenEdge 10.1C, 10.2A

Note If QAD QXtend is installed on an HP-UX IA64 machine with Progress OE10.2A01 or OE10.2A02, a Progress hotfix needs to be applied to avoid issues with QXO services. Please check the Platform Guide and make sure the hotfix is applied.

QAD QXtend Documentation: *User Guide: QAD QXtend* (78-0691E) and *Installation Guide: QAD QXtend* (78-0692E)

New Features

1. **Installer enhancements.** Several significant enhancements have been made to the installer:
   - The installer allows the loading of an initial default configuration at install time. This provides an easy out-of-the-box solution to common interoperability scenarios.
   - The installer allows the user to perform an in-place upgrade without the need for a first successful installation.
   - The installer allows the user to pause, stop, restart and re-run steps within the installation. This feature provides better control on installation.
   - QXtend Message Monitor is automatically installed as a .NET UI plug-in.
2. **Qxtend Licensing.** A new QXtend installation now defaults to a QAD & Approved QAD Partner Free Use license, under which QXtend Outbound can send any QDocs to QXtend Inbound without any license restrictions. Previously, the default license was called Data Synchronization.
3. **Configurable Event Services.** You can now configure event services to only process specific event types so as to create dedicated event service instances for high-priority events, allowing them to be processed as soon as they arise.

   Previously, an event service processed all events for a source application but not selected event types, making it impossible to prioritize important events.

   Event service configurability is achieved through the new event type registration feature that lets you register specific event types of a source application with an event service for processing. A new Event Registration page is available for each registered source application under each event service instance in the QXO administrative UI.

   This enhancement also entails the following changes and impacts:

   - If an active event type is not registered with any event service, it still generates events in the qxevents database but they will never be processed. To prevent unwanted events from accumulating in the qxevents database, the system stops any event service that has a registered source application with active event types not registered with any event service. When you start an event service, the system checks whether all the active event types within each of its registered source applications are registered with an event service. If not, the system shuts down the just-started event service and displays a warning message.

- Business object groups used to ensure that designated groups of business objects are published in chronological sequence. Now with the new configurable event services enhancement, this is only true when all active event types within the business object group are registered with the same event service.
- In the Event Types overview screen, a warning icon is displayed next to any active event type that is not registered with any event service.
- The Validate Configuration utility displays warning messages for:
  - Every active event type that is not registered with any event service
  - Every business object group in which active event types are not all registered with the same event service
- In the business object subscribers report, a warning icon is displayed next to any event name that is not registered with any event service.

4 **Encode password before sending out message.** QXO can now encode the password for a subscriber.

5 **Changes to data sync profiles.** Data sync profile names have been changed to the same as QDoc names. Also, through changing the QDoc version, the same profile can be used for data sync through UIAPI or SIAPI (if corresponding SIAPI exists). Because of this, QXtend Outbound now only keeps one default data sync profile for a BO even if the data can be synchronized using both UIAPI and SIAPI.

Fixes

Fix Description	Internal ID	Issue Affected Versions
QXtend Outbound now does not cause unspecified locks between client sessions. Previously, this could happen and no message was displayed on the client. The user would just have to wait until the other user completed the transaction.	QXT-438	1.5+
QXtend Outbound can now connect to a source application database in shared memory mode under Windows. Raw messages can be extracted as expected.	QXT-459	1.1+
Memory leak issue in Event Service and Message Publisher has been solved.	QXT-475	1.6+
Message Monitor can now display correctly when a profile is assigned to multiple subscribers with tokens.	QXT-488	1.6+
The QXO Session control query option can now show DEAD sessions. Previously, it did not show DEAD sessions unless the QXO dashboard had first been accessed.	QXT-497	1.6+
Email alerts now works well for messages with Detect Operation turned off on profile.	QXT-502	1.6+
A correct Qdoc can be generated for a 1.0 Qdoc syntax when the Qdoc Name and top level node name are the same.	QXT-508	1.6+
Previously, events related to multiple business objects did not always result in raw messages and some events were left unprocessed. Now this has been solved and no events are left pending forever.	QXT-521	1.6.2
Previously, fixed value expressions referencing a field with an unknown value always returned errors. Now the system always changes the unknown value to string “?”	QXT-599	1.6+
Performance of archive has been improved by performing a full table scan on the published message table.	QXT-606	1.4+
Previously, when Detect Operations was turned off, in some situations, not all rows were published. Now this has been solved.	QXT-617	1.6+
Message Sender takes a relatively short time to stop when subscriber web service is not responding.	QXT-626	1.5+

Known Issues

1. To avoid potential issues, QXO triggers for the `sct_det` and `spt_det` tables are not deployed for QAD EE.
2. In the Windows environment, the subscriber response page may not be displayed correctly if the subscriber is using HTTP version 1.1. The workaround is to change Subscriber HTTP from 1.1 to 1.0.

Release Notes for Version 1.6.2

QXO Server Version: 1.6.2

Date: September 2009

QAD ERP Application Compatibility: eB SP4 through current release

Supported Progress Releases: OpenEdge 10.1C, 10.2A

Note If QAD QXtend is installed on an HP-UX IA64 machine with Progress OE10.2A01 or OE10.2A02, a Progress hotfix needs to be applied to avoid issues with QXO services. Please check the Platform Guide and make sure the hotfix is applied.

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691D) and *Installation Guide: QAD QXtend (78-0692D)*

New Features

1. **Installer enhancements.** Several significant enhancements have been made to the installer:
   - The QAD Deployment Configuration Service (QDCS) must now be used for all installations and upgrades—QAD QXtend can no longer be installed manually.
   - The installer now has two installation options: Typical and Advanced. Typical installation allows the product to be installed quickly using default parameter information from the QAD QXtend configuration that is provided with the product. Advanced installation allows a custom configuration to be defined; any default parameter information can be modified using the advanced installation option.
   - It is now possible to specify whether to use client/server mode when connecting to the QXO database and/or the qxevents database.
2. **Free use of QXO.** QXO now can send messages to an external Web service or external directory without requiring a license when used in conjunction with another QAD application (or partner application). In previous versions a license was required. To enable this, you define a subscriber with the type External Application or QXtend Web Service.
3. **Query service domain filtering.** The QXO query service has been modified to only allow querying from one domain at a time. If a business object is domain-enabled, the domain must be passed in the request; otherwise, an error is returned. The domain code is a session context parameter and does not have to be included in the query filter.

Removed Features

1. Distinguish updates. To avoid potential infinite transaction blocking issues, the distinguish updates feature has been removed from QXO.

Known Issues

1. To avoid potential issues, QXO triggers for the `sct_det` and `spt_det` tables are not deployed for QAD 2009 EE.

Release Notes for Version 1.6.1

QXO Server Version: 1.6.1

Date: June 2009

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691C) and *Installation Guide: QAD QXtend (78-0692B)*

Important If you are using QAD 2009 EE or SE, you must use Qxtend version 1.6.1.

Fixes

1. When installing QAD QXtend using the console mode and a local repository, and the file specified is not found, the system now displays a correct warning. Previously, in this situation a message displayed stating that there was nothing to install on the host.
2. The filter on business objects now works correctly for all extractions. Previously, the filter worked correctly the first time a business object was extracted, but failed on subsequent extractions.

Known Issues

1. To avoid potential issues, QXO triggers for the `sct_det` and `spt_det` tables are not deployed for QAD 2009 EE.
2. When performing a migrate for the QXO Database and/or the QXEvents Database, and the connection type for connecting to the source databases is set to "Network", the following message displays once the install button is clicked:

   ```
   Modules to install:
   null
   ```

   Please find the solution to this issue by searching he QAD Knowledgebase using solution ID qad69433.

Release Notes for Release 1.6

QXO Server Version: 1.6

Date: April 2009

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691C) and *Installation Guide: QAD QXtend (78-0692B)*

Important If you are using QAD 2009 EE or SE, you must use Qxtend version 1.6.

Application Changes

The application changes made to the current version are grouped by functional area within the product.

Source Applications

1. In the current version, you can use both database triggers and named (business) events to trigger a business object to be extracted. The introduction of named events enhances your control over the processing business objects; for example, you can now trigger processing at crucial stages within a workflow.

   In non-direct data publish source applications, events can be either database triggers (raised against a specific database table) or business events (raised against business objects). In direct data publish source application types, business events are the only event type. A warning symbol displays next to the event type if the database trigger is not installed in the QAD Enterprise Applications database. You configure database triggers and business events by using the Event Types option on the Configuration tab tree hierarchy.

   Note Named events have also been introduced for business objects, profiles, and subscribers. For details, see the appropriate section below.

Business Objects

2. You can now view and configure event types—for example, database triggers and business events—for data objects on business objects; only active events are displayed. For direct data publish business objects, all valid event types display for the current business object in the primary top-level data object.

3. Inner join queries can now be added to any data object in a business object for additional filtering. An inner join is essentially a filter that consists of fields and/or tables that may or may not be part of the current data object. The fields and tables in the query do not have to be part of the business object. Using inner joins enhances your ability to extract the types of data you want from business objects in your system. Multiple inner join queries can be combined by using a comma to separate the queries.

4. For business objects that have more than one top-level table, it is now possible to specify which data object is the primary object; the system identifies the raw message based on the value of the data identifier field of that data object. The primary data object is indicated by selecting the Primary check box on the Business Object screen.

5. Direct data publish business objects can now be created for all types of source applications, regardless of whether the source application is direct data publish. If you create a direct data publish business object for a non-direct data publish source application, the system displays a dialog box prompting for the type of business object being created.

6 You can now display a Subscribers report to determine the subscribers that will receive messages based on a business object and the events that will trigger messages. The report displays the following:

- Activated event types
- Profiles related to the current business object that have this event type enabled
- Subscribers that receive these profiles based on the event type

If a profile is not assigned to a message publisher, a warning symbol displays next to the profile name. Similarly, if a subscriber is not assigned to a message sender, a warning symbol displays next to the subscriber name. A tooltip for the warning symbols provides the exact reason. To display the report, click the Subscribers button on the Business Objects screen.

7 Chr(23) has been replaced in the system with a different delimiter and is no longer used. This is because chr(23) is a valid character in some European codepages and causes issues when using QXO.

Events

8 Business events can now be imported into—and exported out of—QXtend Outbound when defining business objects by using the Import and Export buttons at the bottom of the Business Events table on the Event Types screen.

Profiles

9 You can now specify which events must occur in order for a profile to be published by enabling the Listen check box for selected events. By default the Listen check box is enabled for all event types for the profile.

The event types that are available are the activated event types for all data objects in the business object related to the profile. Hence these event types are related to the profile as a whole, not to a specific data object. The profile event types do not appear when editing a data object for the profile.

10 Fields can now be defined as add-only. When performing data synchronization, certain fields may be maintained in the local domain and not replicated from the master domain, except when the record is created. Setting a field to “Add Only” on the profile causes that field to be published only when the operation is Add.

11 Profiles can now filter on values that are derived from fixed values and calculated programs. In previous versions of QXO, these values were only calculated when the profile was generated. These values are added to the raw message.

12 Fixed value fields now can contain Progress expressions and perform built-in Progress calculations. Fields from the current buffer can be referenced in this calculation by including the XML node name surrounded by dollar (“$”) characters. The expression must start with an equals (“=”) character; for example, =today + 2 and =substring($ptDesc1$,1,12).

13 You can now publish only the rows that have changed by using the Publish Unchanged Rows check box. Publish Unchanged Rows only works when the Detect Operations check box is enabled, and operates similarly to delta QDocs, except at the table—rather than the field—level.

14 You can now specify an operation program to use for a profile by using the Operation Program field. This option is used with the Detect Operation check box. The operation program specified must be a Progress (.p) program specified in the PROPATH. This check box is only used to perform an operation calculation, or if you want to enter the operation value into a different field than the operation node.

15 You can now include an operation node in the QDoc request by selecting the Detect Operation check box. If you specify an operation program, the system determines what the operation is and enters the result into the operation node in the profile. This field affects how the system handles messages during archiving.

Subscribers

16 Individual profiles can now be configured for subscribers. You can select which events must occur before a message will be published for a subscriber. The message will be sent only when certain event types were the original trigger for the raw message.

17 In previous versions of QXO, a delivery schedule applied to all messages sent to a subscriber. In the current version you can define a delivery schedule for an individual subscriber profile by selecting the Use Subscriber Default option on the Sending Option drop-down menu.

18 Subscribers now can be configured so that the subscriber will only deliver a profile message if the operation of the top-level table in the profile matches the subscriber configuration.

19 Although profiles in previous versions of QXO have had fixed values and calculated programs, the current version allows you to use tokens to set these values on the profile based on the subscriber that is receiving them. For example, suppose each subscriber requires a different fixed value for Site, while the other profile data can be the same. A token is represented syntactically by a character string surrounded by “at” (@) characters, and is placed in the fixed value field of a profile field.

Direct Data Publish

20 In the current version, a direct data publish document must have a business event associated with it, otherwise it will not be published. The system verifies that the event is a valid event type for the source application; if the event type is invalid, the system raises an exception.

21 Direct data publish business objects can now be created for all types of source applications, regardless of whether the source application is direct data publish. If you create a direct data publish business object for a non-direct data publish source application, the system prompts for the type of business object being created.

E-mail Alerts

22 Based on the result of processing subscriber messages, the system now can be configured to send e-mail to the user that generated the event (for non-direct data publish source applications) or to the user defined within the message structure (for direct data publish applications). To do this, select the Email Data Owner check box in the subscriber Configuration Parameters screen, and then select the processing result that will trigger the e-mail to be sent (ERR, MES, or WRN). A status of ERR always results in a message being sent.

23 E-mails are now sent by a dedicated service, freeing up resources used in the message sender service in previous versions. You can view information about the existing e-mail service—for example, e-mails sent, alerts pending, and so on—by using the Dashboard. The e-mail service can be stopped and started as required.

Installer

24 The QAD QXtend installer has been significantly enhanced. Using the installer you can now:

- Perform a new installation or upgrade an existing installation. The previous version of the installer only allowed new installations.
- Migrate a QAD QXtend configuration when performing a new install or an upgrade.

- Perform an in-place conversion on the `qxodb` and `qxevents` databases using the installer's upgrade mode.
- Specify additional connection parameters that can be used, for example, when compiling implementation-specific databases.
- Install an additional AppServer that is dedicated to the service interface.
- Define schema area locations for the `qxodb` database to improve system performance.
- Install QAD QXtend against any of the QAD-supported code pages.

Fixes

1. The `sess-control` script can now be used to query the status of individual services. It also can be run in batch mode.
2. You can now filter the output of a view correctly on the Viewers tab. Previously, the filter could not be reset.
3. During data synchronization, the system now correctly handles the start date field in Product Structure Master (ps_mstr). In previous versions this field was replicated incorrectly.
4. The current version of *Technical Reference: QAD QXtend* incorporates errata that were issued for the 1.5.1 release documentation. The errata sheet is accessible from http://support.qad.com/.

Known Issues

1. To avoid potential issues, QXO triggers for the `sct_det` and `spt_det` tables are not deployed for QAD 2009 EE.
2. When installing QAD QXtend using the console mode and a local repository, if the file you specify is not found, no warning is returned; instead, a message displays stating that there is nothing to install on the host.

Release Notes for Version 1.5.1

QXO Server Version: 1.5.1

Date: September 2008

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691B) and *Installation Guide: QAD QXtend* (78-0692B)

Application Changes

1. In the previous version, the source application type that represented the QAD 2008 Financials module was named FIN2008. This application type has been replaced by QAD2008EE-FIN.
2. QAD QXtend is now compatible with Progress version 10.1C01 as well as version 10.1B.

Fixes

1. In the previous version, the system sometimes generated an error message when inserting data for large QDocs into the SOAP body. Large QDocs are now processed correctly.
2. If a business object's primary field contained an unknown value, the message publisher incorrectly created an add and remove entry for the modification, instead of a single modify entry.
3. In the previous version, the Web Services Description Language (WSDL) file created by the WSDL generator did not work with the .NET wsdl.exe file. In addition, the namespace in the response did not match that in the WSDL file.
4. In the previous version, the JoinManager program was not processing business objects correctly, resulting in errors.
5. The system could not successfully sychronize the fields `db_nbr` and `tid_notice` in Supplier Maintenance. The required calculated programs have been added to the system.

Known Issues

1. Response XML sent to subscribers that use the HTTP version 1.0 specification standard may be truncated because of the way this standard handles the "chunking" of large messages. To avoid this issue, use the HTTP 1.1 specification standard instead. Any new subscribers you create should use the version 1.1 specification standard. For the purpose of backwards compatability the 1.0 standard can be used, but doing so will slow system performance.

Release Notes for Version 1.5

QXI Server Version: 1.5

Date: May 2008

QAD ERP Application Compatibility: eB SP4 through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691B) and *Installation Guide: QAD QXtend* (78-0692B)

New Features

1. Version 1.5 of QXtend includes a Query Service, which provides a data interface between QAD products, and between QAD products and external systems, without the need to connect to an application database.

   The Query Service is a Service Interface API, and can be called using a native Progress call, a Progress appserver call, or using an XML Web service (QXtend Inbound) call. When called, the Query Service connects to the source application database, extracts the required data, packages the data, and returns it to the calling application. The data can be returned as either XML or as a ProDataSet.

   You can use the Query Service to:

   - Access data in other QAD applications for lookups and validation.

     This facility removes the need to replicate data into the product module.

   - Allow an external application to access data stored in a QAD application.

     This facility could be used to validate data from an external application before it is sent to the QAD application, reducing potential errors when interfacing between products.

2. QXtend can now accept and publish raw business object event data from the QAD 2008 Enterprise Edition Financials module, eliminating the need to extract data from the Financials database. Financials can use QXtend to:

   - Replicate financial data, including configuration and transactional data, between separate instances of Financials.
   - Replicate financial data between Financials and a third-party financial application.

   Financials business objects employ direct data publishing and are passed directly from the source to the QXODB database in QXO. From the QXODB database, they are processed by the message publisher.

   The Financials raw business object event data is saved in an XML file and passed directly to QXO using an event message API; the resulting QDoc is published without the need for any further processing.

3. Subscriber configuration in QXO contains a number of new fields that facilitate QXtend's interaction with Financials. These fields are:

   - Source Entity
   - A new communication method: QXtend Web Service. In this method, users can connect to QXtend without needing to know the full URL of the Web service. The QXtend Web Service method also denotes communication that is carried free of charge. Any message sent using the File Directory or Web Service communication methods requires a license. If you select the QXtend Web Service, there are a number of new fields for the Tomcat hostname and port, Web service, and for SSL.

4. The QXO Profiles tab includes a new button for generating WSDL files.

5 The Profiles screen includes new fields for specifying the entity you want to create a QDoc for. If you leave the field blank, the profile will create the QDoc for all entities. There is also a field for Default Operations, where you can indicate whether you want to include an Operation node in the QDoc.

6 In the QXtend Message Monitor, data can now be filtered by target domain and subscriber.

Release Notes for Version 1.4

QXO Server Version: 1.4

Date: September 2007

MFG/PRO Compatibility: eB through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend* (78-0691A) and *Installation Guide: QAD QXtend* (78-0692A)

New Features

1. You can now configure QXO to generate and distribute e-mail alerts that are raised by QXO for events relating to specific subscribers and profiles. Similar e-mail alert functionality—providing alerts for receivers, domains, and APIs—is available in QXI.

2. Two new predefined source application types—QAD2008 and FIN2008—have been created in preparation for the new QAD 2008 release. The FIN2008 source application type represents the new QAD 2008 Financials module (see below).

3. You can now synchronize data originating from QAD 2008 with another instance of QAD 2008—or with external systems. QAD QXtend version 1.4 introduces two enhancements designed to support this.

   - QXI uses a new service interface layer to support interoperability. See “Release Notes for Version 1.4” on page 11 for details.
   - QAD QXtend can now accept (and publish) raw business object event data from the QAD 2008 Financials module, eliminating the need to extract data from the Financials database. An administrator can now indicate a source application type is direct data published by selecting the Direct Data Publish check box on the Source Application Types screen. Selecting this check box causes the source application to post event data so that QXtend does not have to extract it using an event service. By default this check box is selected for the predefined FIN2008 source application type and cannot be updated. If the Direct Data Publish check box is selected, the source application node on the tree menu does not display further information—databases, domains, business object groups, and event types, for example.

     Tables and fields for business objects that employ direct data publishing cannot be added, modified or deleted, although the business object itself can be deleted. The only items that can be modified for these business objects are the Publish Delay, Archive, and Description attributes on the business object header; the Description and Identifier fields on the data object header; and the Always Publish and Primary fields on the field list.

     Schemas for business objects that employ direct data publishing can be imported by clicking the New button on the Business Object tab and then specifying the location of the schema file. A schema can be reimported later by clicking the Reload button at the top of the business object maintenance screen.

4. You can now choose whether a source application type is active or not by selecting the Active check box on the Source Application Types screen. This check box controls whether the source application appears on the application tree menu and on drop-down list boxes. The event service will not extract events from inactive source applications, nor will the direct publish API receive business objects. If an existing QXO system already has any of the default source application types defined, the Active check box is selected.

5 You can now indicate whether to use rowids or OIDs to identify data objects that have changed in a source database by selecting the Use Rowids check box on the Source Application Types screen. A rowid is an internal system-generated identifier used by the database, whereas an OID is an actual field in the table. The event service has been modified to extract data using either the rowid or the OID, whichever is supplied by the trigger.

Note The Use Rowids option is preset and cannot be changed for predefined source application types. In addition, in order to use the OID index in eB2.1 the optional Enhanced Controls schema must first be loaded. Loading this schema for QAD 2008 is not required since by default the OID index is on.

For business objects that do not use the database rowid, the unique identifier must be specified in the Identifier field in the data object header. This field is used to match the current event message object with the previous message to determine which changes might have occurred.

6 A new type of fixed value is supported. You can now specify a fixed value by using the format `=<node>`, which causes the field to be populated with the value in the specified node. For example, if a profile data object contains two nodes—`field1` and `field2`— and the fixed value component of `field2` is `=field1`, `field2` will be populated with the value of `field1`. If `field1` does not exist, the string `=field1` will be the value of `field2`. QAD QXtend now determines node values in this order: a fixed value, a calculated value, the value supplied in the event message.

7 The signature and the input and output parameters have changed for calculated fields: now the profile dataset is passed instead of the delimited list of primary fields to allow the calculated field to have access to the complete dataset.

For example, this is a listing of the `samplecalc1.p` program:

```
define input parameter dataset-handle phDataset.
define input parameter pcBuffer as character.
define input parameter pcQueryString as character.
define output parameter pcResult as character.
pcResult = string(now).
```

The first parameter is the entire profile message defined as a dataset. The second parameter is the name of the buffer in the dataset that is currently in scope. The third parameter is the query string for that buffer that locates the exact record in the dataset that is in scope. The fourth parameter is the result of the calculation.

8 The message publisher component has been re-engineered in order to support the changes made to the data model for the event message. As a result, QDocs using the 1.0 syntax specification that contain arrays and/or delta QDocs are now created by the SAX writer. The SAX writer is faster than the previous method, but is slower than using the method to create QDoc 1.1 syntax documents.

9 QXO has a new GUI-based installation program that greatly simplifies the installation and deployment of the QAD QXtend components. The installation supports single-tier and multi-tier mode installation. The installation has a Parameter Service that allows an administrator to enter parameter information that describes their existing environment. The settings stored in the Parameter Service are used to guide the QXtend installation and deployment behavior.

10 QXtend performance has been improved significantly due to modifications in the way that QXtend handles data. For details, refer to the *QXtend Deployment Considerations* and *QXtend Performance* documents that are available from QAD Support.

11 In the QXO `start-sess.sh` file, you can cause QXO to process rowids as 32-bit by appending an option parameter to the `-param` entries:

```
-param "$1",$LOGLEVEL,yes
-param "$1",$LOGLEVEL,no
```

QXO runs on version 10.1B, which processes rowids as 64-bit; earlier versions of Progress send rowids as 32-bit. Because QXO must interpret rowids consistently, you should set this parameter if any of your databases are running on versions of Progress earlier than 10.1B and you do not have time to run the conversion routine for existing data in QXO. For new installations, this parameter does not need to be set. The default setting is no.

By default, QXO converts all incoming 32-bit rowids to 64-bit. However, users who are upgrading from an earlier version of QXO must run a conversion routine to convert all rowids stored in the database—that is, the link to the business object message—to 64-bits.

Because this conversion can take a long time to complete—especially if the QXO system has been operational for a long time—this parameter setting is provided as a workaround until a suitable time is found to perform the conversion and/or archive the old data.

This is a system-wide setting, so if an QAD Enterprise Applications system was using 64-bit rowids and QXO was processing them as 32-bit, erroneous results may arise.

12 The `qxodb` database now supports UTF-8 codepage.

Fixes

1 The following unused functions have been removed from the Test Harness:

- Create Merged Schema
- Map XML Schema TO 4GL API
- Map Request XML To 4GL API

2 The QXtend Message Monitor .NET component previously required the `C:\tmp` directory to exist. This dependency has been removed.

3 The 2 MB limit on the size of QDocs has been removed.

Known Issues

1 In MFG/PRO eB2.1 and QAD 2007, if you run Trade Management (TrM) and QXtend 1.4, the Invoice Post program may fail with a `Mismatched number of params` error. TrM contains a version of `soivpst1.p`, which contains an in-line trigger. This trigger code has been modified in QXtend version 1.4 to also pass in the OID when writing the event in `qxoevent.p`. Since TrM has the old version of the in-line trigger, this error may result. A similar problem may occur with any other bolt-on product that modifies any of the following programs:

- `pppsmt01.p`
- `ppptmtb.p`
- `rcctwba1.p`
- `rcsomt.p`
- `soivpst1.p`
- `sosomt1.p`

To resolve this issue, the TrM version should be modified to also pass the OID. This ensures that the TrM-specific logic is not being overwritten by the QXtend 1.4 version of the file (which is a copy of the MFG/PRO baseline version).

2 If you use the QDoc 1.1 syntax, a Progress bug in the dataset `write-xml()` method incorrectly writes the value of some fields, including the fields in the table below.

Table Name	Field Name	Table Name	Field Name	Table Name	Field Name
alm_mstr	alm_seq	lcap_hist	lcap_count4	sod_det	sod_ord_mult
cmh_hist	cmh_tot_cost	ncc_ctrl	ncc_cr_limit	so_mstr	so_fr_min_wt
cmh_hist	cmh_tot_sale	ncc_ctrl	ncc_fr_min_wt	sph_hist	sph_cost
cm_mstr	cm_cr_limit	opm_mstr	opm_cyc_unit	sph_hist	sph_quota
cm_mstr	cm_fr_min_wt	op_hist	op_act_units	sph_hist	sph_sales
cm_mstr	cm_high_cr	op_hist	op_std_units	sph_hist	sph_tot_cost
cph_hist	cph_cost	pc_mstr	pc_min_qty	sph_hist	sph_tot_sale
cph_hist	cph_qty	poc_ctrl	poc_rcv_nbr	sv_mstr	sv_calls_allow
cph_hist	cph_sales	poc_ctrl	poc_rcv_type	sv_mstr	sv_visits
cph_hist	cph_tot_cost	pod_det	pod_ord_mult	vd_mstr	vd_fr_min_wt
cph_hist	cph_tot_qty	po_mstr	po_rev		
cph_hist	cph_tot_sale	pth_hist	pth_tot_cost		
ct_mstr	ct_disc_days	pth_hist	pth_tot_qty		
ct_mstr	ct_due_days	pth_hist	pth_tot_sale		
dss_mstr	dss_fr_min_wt	ptp_det	ptp_mfg_lead		
egw_wkfl	egw_hours	ptp_det	ptp_ord_max		
fcs_sum	fcs_abnormal	ptp_det	ptp_ord_min		
fcs_sum	fcs_fcst_qty	ptp_det	ptp_ord_mult		
fcs_sum	fcs_pr_fcst	ptp_det	ptp_ord_qty		
fcs_sum	fcs_sold_qty	ptp_det	ptp_rop		
ff_mstr	ff_adj_fc	ptp_det	ptp_sfty_stk		
ff_mstr	ff_orig_fc	ptp_det	ptp_sfty_tme		
fpc_mstr	fpc_min_qty	pt_mstr	pt_mfg_lead		
frcd_det	frcd_max_wt	pt_mstr	pt_ord_max		
frcd_det	frcd_min_wt	pt_mstr	pt_ord_min		
idh_hist	idh_ord_mult	pt_mstr	pt_ord_mult		
ih_hist	ih_fr_min_wt	pt_mstr	pt_ord_qty		
ild_det	ild_ord_mult	pt_mstr	pt_rop		
ild_det	ild_rop	pt_mstr	pt_sfty_stk		
ild_det	ild_sfty_stk	pt_mstr	pt_sfty_time		
in_mstr	in_rop	qc_mstr	qc_lead_time		
in_mstr	in_sfty_stk	qod_det	qod_fst_rate		
itmh_hist	itmh_qty_call	qo_mstr	qo_fr_min_wt		
itmh_hist	itmh_qty_rec	rdf_mstr	rdf_ship_time		
itmh_hist	itmh_qty_ship	ro_det	ro_cyc_unit		
itm_det	itm_qty_call	rql_mstr	rql_amt		
itm_det	itm_qty_chg	sadh_hist	sadh_visits		
itm_det	itm_qty_rc_rec	sad_det	sad_visits		
itm_det	itm_qty_rc_ship	sah_hist	sah_visits		
itm_det	itm_qty_rec	salh_hist	salh_pct_covered		
itm_det	itm_qty_ship	sal_mstr	sal_pct_covered		
lcap_hist	lcap_count1	sa_mstr	sa_visits		
lcap_hist	lcap_count2	sm_mstr	sm_lead		
lcap_hist	lcap_count3	soc_ctrl	soc_min_shpamt		

Some database fields in QAD Enterprise Applications are defined as decimal but with a format that contains no decimal places—the Customer Credit Limit is an example. When QXO extracts the business object data and creates a QDoc using the `write-xml()` method, fields defined as decimal but that have no decimal places come out with 1 decimal place so that, for example, the value 1200 becomes 1200.0. This causes a problem in QXI when entering the QDoc because the Customer Credit Limit field does not accept decimal points, causing a credit limit of 1200 to become 12000 in the receiving domain. Until this bug is fixed by Progress, you should use the QDoc 1.0 format, especially if using Data Synchronization.

3 The QXtend Message Monitor plug-in only operates in version 2.1 of the .NET UI. If you are using .NET version 2.5 and want to use the Message Monitor, you should contact QAD Support for an updated version of this plug-in.

Release Notes for Version 1.3

QXO Server Version: 1.3

Date: March 31, 2007

MFG/PRO Compatibility: eB through current release

QAD QXtend Documentation: *Technical Reference: QAD QXtend Outbound* (78-0664A)

New Features

Improved Support for Business Objects

This new version of QXO supports more business objects than the previous version. With the current release of QXO, the following additional business objects are provided:

Alternate Unit of Measure	Forecast	Purchasing Price List
Analysis Code	Generalized Codes	Routing
Analysis Code Link	Inventory Status	Site
Analysis Code Selection	Master Comment	Supplier Item
Cost Set	Product Line	Work Center
Department	Product Structure Code	

Ability to Track Outbound Messages

QXO now includes the QXtend Message Monitor that allows you to track outbound profile messages that are delivered to external subscribers. You also can view the response messages that are returned from subscribers. Using the Message Monitor feature you can thus view the complete lifecycle of profile messages through QAD QXtend—from publication and delivery through to response.

Note The QXtend Message Monitor runs only in the QAD .NET user interface (UI) and is a plug-in to QAD QXtend. The QAD .NET UI is based on Microsoft .NET technology and provides a common framework for multiple QAD applications.

Using the QAD QXtend Message Monitor you can view:

- A summary of the details of profile messages delivered to subscribers
- Details of subscriber messages, including delivery status
- Details of subscriber responses arising from message processing
- Raw XML data for messages, requests, and responses

In order to support the ability to group profile messages by type, you can now associate a profile with a profile type when creating or modifying a profile. A profile type describes the application type of a subscriber. The Message Monitor lists by default the profile type associated with a profile message.

The addition of the Message Monitor has rendered obsolete the Response Directory field on the Configuration Parameters screen for subscribers; this field has consequently been removed.

Ability to Schedule Message Delivery

You can now define a delivery schedule to control the transmission of a single document or multiple documents in a batch to subscribers at a specific time. A delivery schedule can be used as the default schedule.

Various types of schedule can be defined for transmitting documents:

- Immediately when published. If no delivery schedules are defined this is the default system behavior. You select this option when defining a subscriber.
- At a specified time (or times) during the day. You can choose from several predefined times or specify one or more user-specified times.
- On selected days of the week at specified times.
- During selected months on specified days at specific times.

The subscriber Configuration Parameters screen now has the following additional schedule-related options:

- Use the Allow Superseded check box to indicate whether the subscriber only accepts the latest revision of a document or incremental updates of a document. The Allow Superseded option is typically used when multiple QDocs exist for the same rowid that has been updated multiple times, and only the latest QDoc is required.
- Use the Sending Option drop-down list to specify how to send the message. For example, you can either send the message immediately or use one of the defined delivery schedules.

Ability to Archive QAD QXtend Data

You can now use the Archive Settings feature to configure archive settings. You can delete and optionally archive data in the `qxodb` database that is no longer necessary for the day-to-day running of QXO.

Using the archive feature you can:

- Archive raw data from business objects
- Archive profile messages, including child data such as responses and exceptions
- Archive alerts and logs
- Schedule archive runs
- Run an archive service

Typically your business requirements will dictate the types of data—alerts and logs, published messages, event messages—you need to archive and how often you should archive.

You also can run the archive feature by using a cron job. Using a cron job lets you schedule archiving to occur at multiple times per day, if required. Configuring archiving using the Archive Settings screen only lets you schedule archiving to occur once per day on the days you specify.

When defining a business object, you indicate that event messages for that business object should be archived by selecting the Archive check box on the Business Objects properties dialog.

Additional Subscriber Configuration Options

When defining a subscriber, you now can specify the following additional configuration options:

- Receiver and domain values required by the subscriber
- A SOAP action (required if the subscriber is for a QXI instance)
- A SOAP envelope (allows QDocs to be sent to Web services that accept or poll for XML documents)

Ability to Synchronize Rowids Across MFG/PRO and QXO Databases

From time to time you may need to perform Progress database dump and load procedures for various maintenance-related reasons. Performing dump and load procedures changes the assigned rowids in the MFG/PRO database; this means that rowids will no longer be synchronized with the original rowids stored in the QXO database. This reassignment of rowids will result in erroneous messages being generated by

QXO. To correct the rowid mismatch and resolve this issue, you now can run the QXO mass rowid synchronization tool.

This tool iterates through the records in the Event Message section table of `qxodb` and queries the MFG/PRO database to determine if the rowids match. If there is a mismatch, the tool synchronizes the Event Message section record rowid to that of the MFG/PRO rowid.

Ability to Control Services from the Command Line

You can now start, stop, or query QXO services—Event Service, Message Publisher, for example—by running a tool from the command line. Using this tool you can shut down your QAD QXtend services cleanly as part of a scheduled backup process, and then restart them once the `qxodb` server is running.

Ability to Validate a QXO Configuration

You can now validate your QXO configuration by viewing validation information. The Validate Configuration utility—available in the Configuration tab under the Utilities node in the navigation tree—provides validation information about each aspect of your QXO configuration, including level of severity, message, and cause. A severity level of 1 indicates a critical error. A severity level of 2 is an advisory to check your configuration.

Fixes

1. Dates are now published in ISO YYYY-MM-DD format. This format is required when submitting outbound messages to QXI.
2. Previously, the error message that was generated if the event type did not exist omitted the name of the missing event type—for example, “ERROR: Event type does not exist 112.” The modified error message now shows the name of the table that is missing an event type record—for example, “ERROR: Event type code_mstr does not exist 112.”
3. The dump of the business object failed if there was an unknown value passed in to the `set-attribute` method of the node. The method has been modified to check for the unknown value and put a blank in its place.

   In addition, in previous releases on the UNIX platform, if a business object being dumped was larger than 32K, QXO would not output anything due to the Progress limitation of 32K for a character. The dump of the business object has been modified to load into a Progress MEMPTR (memory pointer) instead.
4. When importing business object and profile definitions, if the XML contained a profile with the same name as an existing default profile, the result was the error message “Profile already exists” (sev-3). This fix first deletes the existing default profile and then imports the new profile.
5. When modifying a business object, the fixed values and calculated programs fields were being overwritten in the profiles for the business object. This fix checks to see if the fixed values and calculated programs fields have been set previously and, if so, preserves these values.
6. When using the Publish with Parent option on a profile data object, all subsequent child records were not being published in the QDoc. This has now been fixed and the child records are published.
7. When QXO received a QDoc response that was larger than 32K, the response was truncated or blank, and the error message “Attempt to exceed the max size of Char variable” was generated. The `msg-handler.p` program has now been fixed to support large object binaries (LOBs) larger than 32K.

8 The QDoc name was sometimes changed during a business object import. This has now been fixed—the QDoc name from a business object import is now always identical to the original.

Optional Patches

In some circumstances you may need to install optional patches, which are described in the table below. These patches are available from QAD Support. Ideally these patches should be installed after QAD QXtend is extracted from the CD, but before it is built and compiled.

Patch	Description
`msg-handler.p`	This file contains two patches. The first patch fixes a bug that arises when performing a resubmit. The second patch fixes a bug that arises when multiple message sender agents for a single message sender are configured. This patch must be installed if you intend to use multiple sender threads.
`pl-genqdoc.p`	This file contains two patches. The first patch sets the `mnemonicsRaw` attribute of all QDocs to True. This avoids having to put language detail records in the business object. The second patch corrects the situation where QXO is not producing the QDoc in the same format as QXI is expecting for arrays. These patches should be installed if you are configuring QXO to provide data synchronization capability with QXI.
`pl-idqxobo.p`	This fix was added to QXO to cause it to ignore updates to business object query definitions for data deletes. However, for data additions/updates, this patch causes QXO to recheck the business object query definition and publish the QDoc. This patch must be installed if, during QAD QXtend configuration, business objects are loaded from a file.
`xml-profile-load.p`	This patch corrects the situation where loading profiles did not link the profile type correctly. You should install this patch if you intend to use the synchronization profiles to be provided by QAD.