

Iptor XT UI Solution Guide

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Introduction

XT UI is a powerful user interface for **IBMi RPG** applications developed by **Iptor Supply Chain Systems** in order to replace the old 5250 and screen scraper based UI solutions for the business application **IP1 - ERP for Publishing**. XT UI is the user interface platform used by a number of business systems, both Iptor owned, but also for systems made by other software providers.

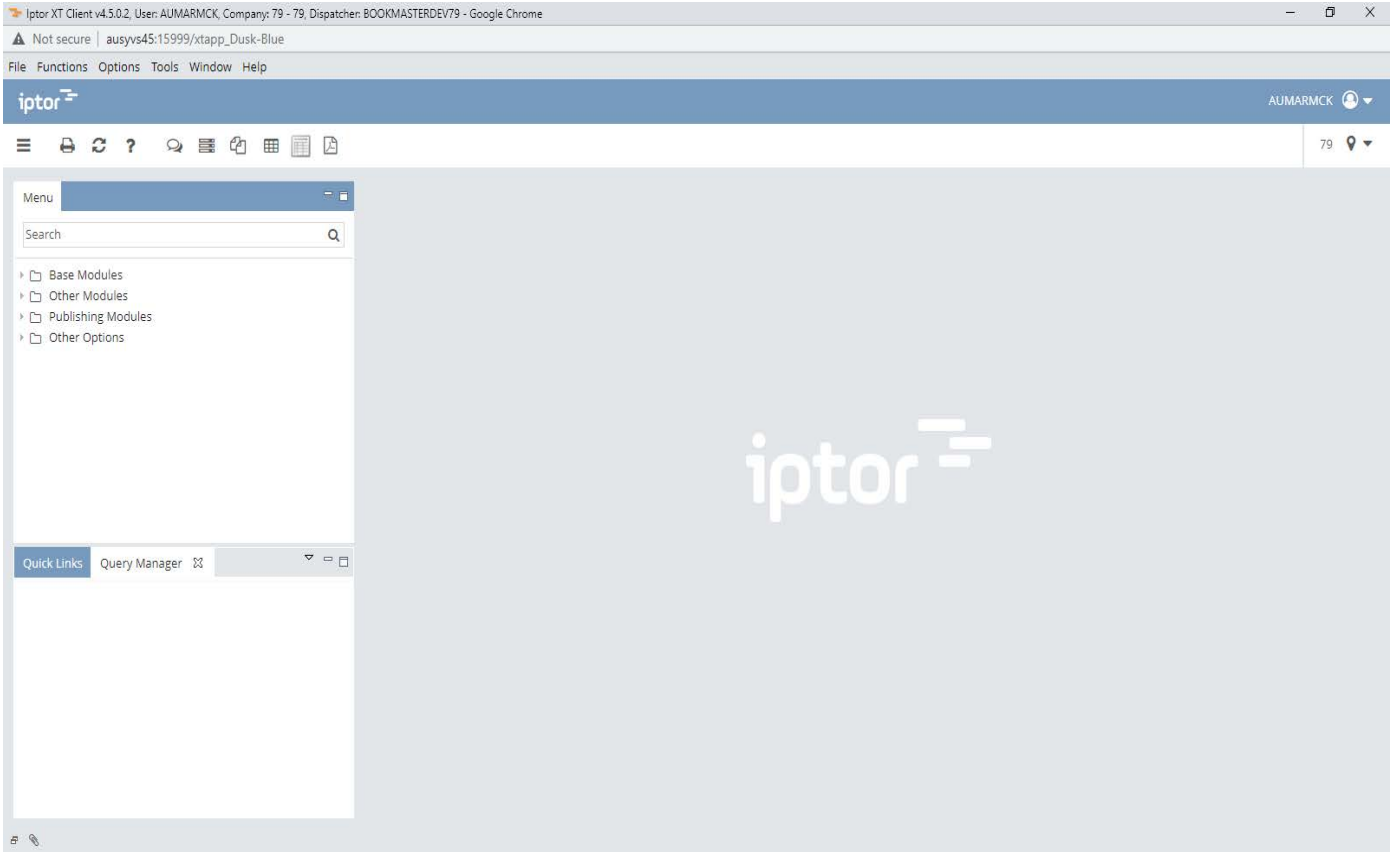


Figure1. XT UI Workbench

Business value

- Modern user interface for your IBMi RPG application.
- Allows you to access your application on IBMi from many different client platforms and devices.
- XT Server can run on IBMi. May save hardware and server license costs.
- Enables your business application for Cloud computing.
- Panels can contain much more information compared to a 5250 based UI.
- Live search (Auto-complete).
- Easy to integrate with other applications or Web sites.
- Powerful data export/import functions.
- Attachment function. It is possible to attach files and links to any panel of your application.
- Integrated query tool included. Build, run and share query definitions with other users.
- XT Studio, which is part of XT UI, is used to develop the panels of the backend application. No HTML, JSP or Java scripting is required.

Solution

The IBMi RPG programs are modified in order to communicate with XT UI instead of the 5250 display system. This process is automatic. The display files can be enhanced in order to provide additional columns / fields which will become visible in XT UI only, the 5250 function will work as usual. The XT Client creates panels (screens for your business application) by using a layout XML file and the data sent by the RPG program. The layout XML files are created automatically by conversion of the OS/400 display files (DSPF) and can be enhanced in XT Studio.

XT UI consists of the following parts:

1. **XTiSE** – XT UI iSeries Enabler
2. **XT Server** – Server part
3. **XT Client** – User interface
4. **XT Studio** – Layout design and management tool

XTiSE

This IBMi based module acts as link between RPG programs and the dispatcher. XTiSE contains a runtime part and a tool used to enable RPG programs for XT UI. The tool is used to generate some code into the RPG programs in order to convert the 5250 data stream to XML and redirect the communication to the XT Server.

XT Server

The XT Server is a web server used as a service container. This server should reside as a singleton instance at the customer site in a production environment as clients communicate with this server. All configurations for the server is done with XT Administration. The XT Server also holds layout translation databases, attachments and all user data like client settings, query definitions, etc.

Dispatcher

Dispatchers are services managed by the XT server. The dispatcher is the link between the backend application and the clients. The communication between the dispatcher and the clients is HTTP(S) and the format is XML.

UI Server

The UI Server is a process acting as server for the thin HTML client and is based on the Eclipse RAP platform. The UI Server is connected to the dispatcher. There can be several UI Server instances.

XT Administration

XT Administration is the web-based administration of the XT Server and its services. Here dispatchers and UI servers are started, stopped and configured. In addition, a number of other configuration functions are available, please see list below.

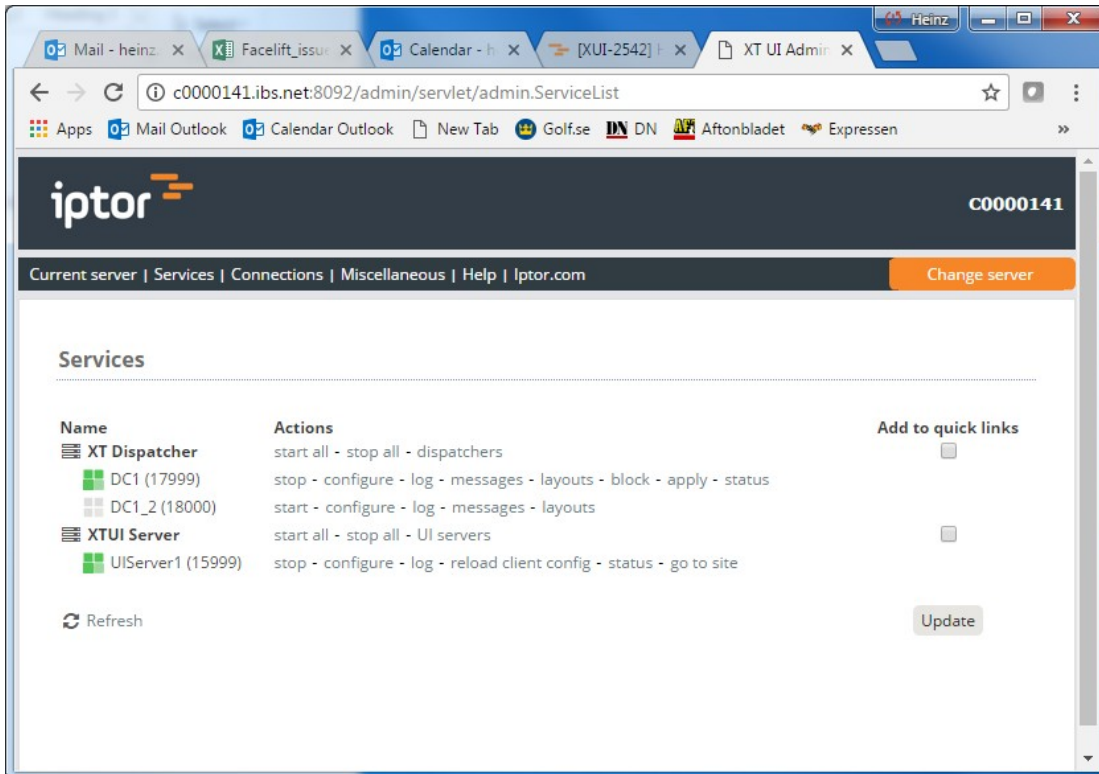


Figure2. XT Administration

XT Administration delivers the following functions:

- **Configuring and managing dispatchers.** The dispatcher is the link between the RPG application on IBMi and the XT Client.
- **Configuring and managing UI Servers.** The UI server is the backend for the thin (browser based) XT Client.
- **Configuring Attachments.** This function allows you to add/edit attachment configuration for the panels of the backend application.
- **Configuring shared queries.** This function allows you to set up a folder structure and authority for query sharing.
- **Managing translation databases.** XT Studio can be used to translate layouts into different languages. The databases containing the translated texts can be managed here.
- **Setting up dispatcher clusters.** If the XT Server runs on MS Windows it is possible to use the NLB (Network Load Balancing) feature in order to share the load over several dispatcher instances/servers.
- **Setting up DSPF to XML layout conversion profiles and metadata configuration.** You can use XT Studio to convert OS/400 display files (DSPF) to layout XML files. Layout XML files contain the design information for panels shown in the XT Client. Depending on the backend RPG application there are a number of Java conversion classes to be run in a certain order. Which classes to run and their sequence is controlled by the conversion profile configuration.
- **Monitoring performance.**

Security

XT UI is a secure solution. No program calls or SQL statements are allowed between the client and the business application. The client uses servlets to communicate with the dispatcher. The HTTP data traffic can be secured with SSL.

XT Client

XT UI has both a rich and thin client. Except from minor differences the thin client and rich client have similar functionality. Please see Appendix 'XT Client Functional Overview' for more information.

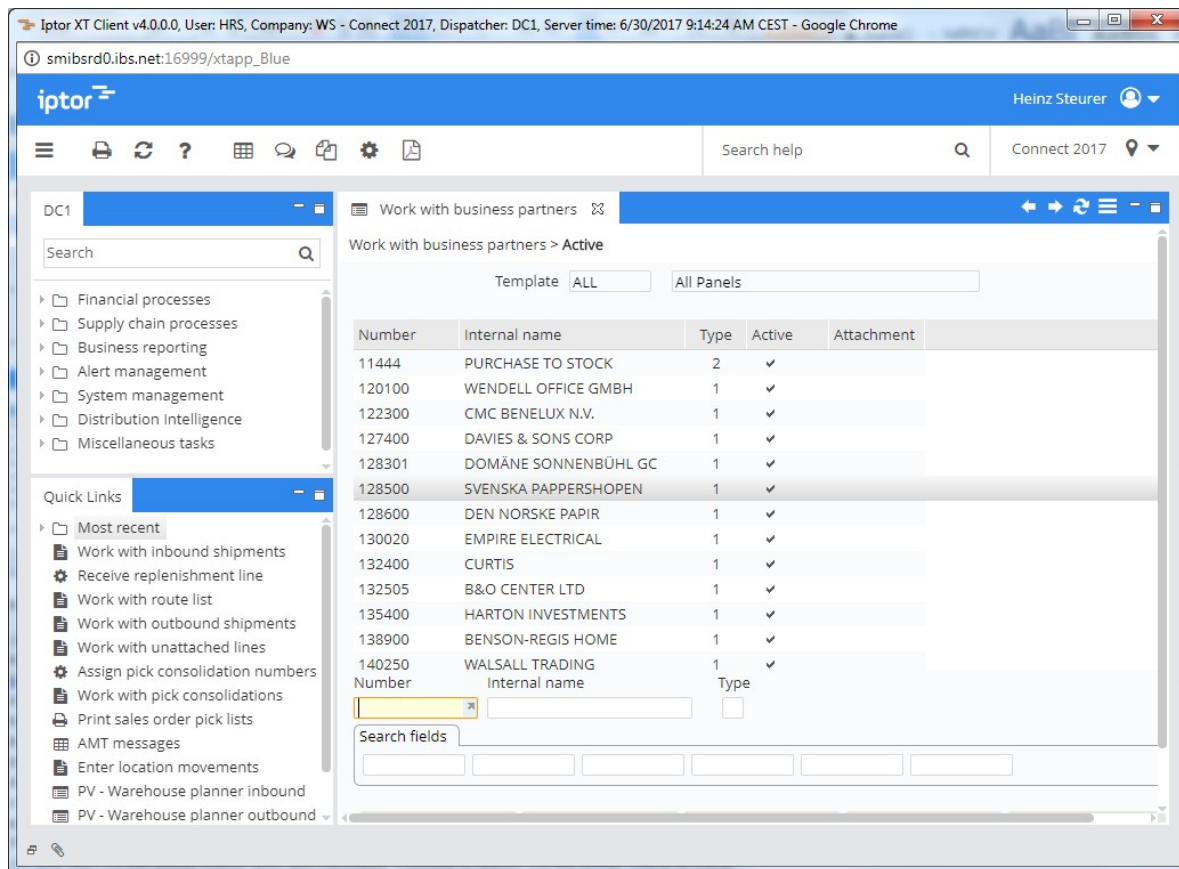


Figure3. Work with business partners

The client delivers the following functions:

- Modern user interface for the IBMi RPG based application.
- Panel is shown as tab. Each tab corresponds to one OS/400 job.
- Shows more data than in 5250. Additional columns/fields can be sent by the program to be shown in the XT Client.
- Quick Links, user can organise favourite functions.
- Export data from tables (sub-files) to Excel, PDF or CSV file.
- Role templates, client can be pre-configured depending on the user's role in the organisation.
- Attachments, possible to attach files to panels. E.g. image for product or link to product web site.
- Integration to other applications and web sites, data from panels can be used as parameter. E.g. open Google maps and show the business partner's location.
- Query Manager, build and run queries. Possible to let users share query definitions. OS/400 query definitions can be imported. Connect queries to panels and use panel fields as parameters. Can export query result to Excel, PDF and CSV file.
- Functions to work with OS/400 printer output, jobs and messages. Possible to export OS/400 printer output to Excel.
- Panel / field sensitive web help system.

Solution architecture

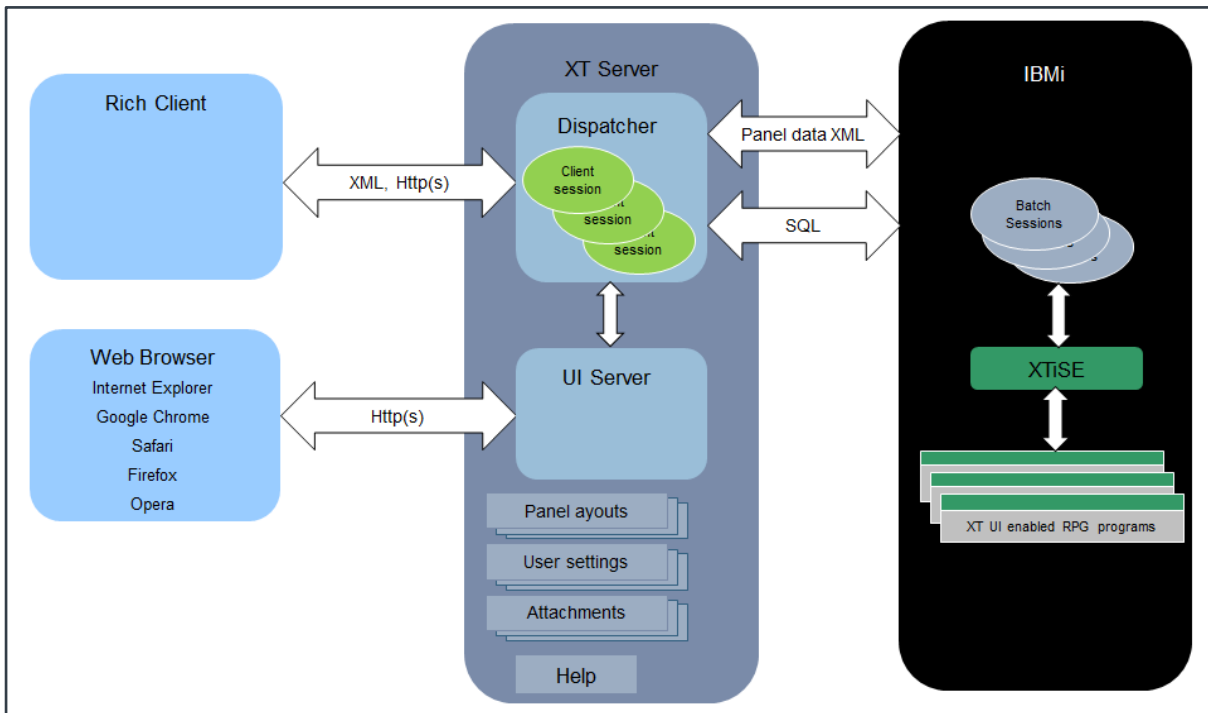


Figure5. XT UI architecture
 IBS XT UI is developed in **Java**. The main development tool is **Eclipse**.

Supported platforms

XT Server

- IBMi (iSeries)
- MS Windows 2008 R2 Server
- MS Windows 2012 Server
- MS Windows 2016 Server

XT Rich Client

- MS Windows Vista
- MS Windows 7
- MS Windows 8
- MS Windows 10
- MS Windows 2008 R2 Server
- MS Windows 2012 Server
- MS Windows 2016 Server

XT Thin Client

All platforms supporting one of the following browsers:

- Microsoft IE 9 or higher
- Microsoft Edge
- Mozilla Firefox
- Google Chrome
- Safari
- Opera

XT Studio

- MS Windows Vista
- MS Windows 7
- MS Windows 8
- MS Windows 10
- MS Windows 2008 R2 Server
- MS Windows 2012 Server
- MS Windows 2016 Server