The Business Case for IBM i Green Screen Modernization

The top business reasons, supported by real-world examples, why giving your green screens a web GUI adds value to your IBM i.
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CREATED BY THE FOLLOWING BCD AND QUADRANT SOFTWARE EMPLOYEES:

Writers: Duncan Kenzie, Chief Knowledge Officer
         Marcel Sarrasin, VP of Corporate Marketing
Writer/Editor: Candice Schultz, Marketing Specialist
Designer: Menno van Mil, Design Manager
Executive summary

Many organizations rely on the IBM i (formerly the AS/400 and iSeries) to run critical business applications like ERPs. Although the IBM i is a rock-solid, modern platform, its green screen interface limits productivity and makes it look like antiquated technology.

Providing a browser-based graphical user interface (GUI) for your business applications can go a long way in maximizing your investment in IBM i and keeping you on the platform. Using a tool to render your green screens as web pages is a low-risk modernization approach that provides a quick ROI, leverages your existing staff and doesn’t require you to touch the underlying code.

End users and management will more readily accept a modern, intuitive interface that reflects the quality of the underlying program. GUIs are also much easier to access than green screens, which can make the prospect of giving partners and customers self-serve access more viable.
Executive summary

Green screen modernization also offers financial advantages. Organizations can make users more productive and improve workflows by replacing pen-and-paper processes with direct access to applications via browsers on PCs, Macs and mobile devices. New functionality such as dropdowns and autocompletes can lead to faster data entry, while a familiar interface with consistent navigation can reduce training costs. The ability to integrate with other web technologies can also add more value to enterprise applications.

This ebook highlights the top business reasons for IBM i green screen modernization. Each reason is supported by real-world examples of BCD customers who use Presto, BCD’s 5250 and RPG OA modernization tool.
Extend the life of your IBM i with a modern interface

The IBM i’s low total cost of ownership, reliability, security and integrated database make it an ideal platform to run critical business applications. It has always been possible to create modern IBM i applications with modern interfaces, however many IBM i shops haven’t taken this step.

Unfortunately, we’ve seen situations where organizations running IBM i have been acquired, have hired new managers, or have upper management who perceive the IBM i as outdated and move to migrate off the platform. These projects can span multiple years, far exceed deadlines and cost hundreds of thousands of dollars, whereas modernization projects are generally much narrower in scope. Migrating to a new platform offers little advantage over the IBM i and provides a bleak outlook for RPG programmers. For these reasons, doing nothing about your green screens can be costly.

Giving your green screens a web GUI can breathe new life into your IBM i by delivering applications that look and work the way users and management expect. So much is possible with today’s modernization tools; You can add new functionality such as images, drop downs and tabs, use RPG Open Access to create scrolling grids and extend your screens way beyond the confines of 80 or 132 columns.
K3S, an independent software vendor, has been running a successful inventory replenishment software package on the IBM i since 1990. Customers told the vendor that new employees had rarely interacted with green screens, which inflated training costs. K3S uses Presto to give their software package a professional looking web GUI that is intuitive to use and saves their customers training time.

Learn more and view screenshots »
K3S company website »
Web enabling is a low risk option that gives you fast results

Web enablement requires less investment than rewriting monolithic legacy RPG programs as new web applications. It gives you impressive results in a short period of time by transforming all of your existing green screens into modern web pages.

This starting point - which can be achieved in days, not weeks or years - is a significant improvement over green screens. You then have the flexibility to further enhance screens using a Visual Editor. Web enablement is also low risk because it’s non-invasive: Your proven source code is left untouched. This also means that users who prefer to use green screens can continue to do so.
“We used Presto to web enable all of our green screens without changing a single line of RPG or DDS code. My colleagues and I have many years of programming in RPG and COBOL and absolutely no web development experience. To implement a 100% web-enabled solution for our ERP system in a very short time is extraordinary.”

Jim Underwood — Quest’s IT Manager.

Read Quest Medical’s modernization story »
Increase end-user productivity

Green screen modernization offers value above and beyond an attractive interface for your applications. A well-designed GUI should perform better than a green screen and increase productivity by reducing keystrokes and errors. Each small gain can lead to significant time savings, especially on frequently-used screens.

Here are additional ways you can increase productivity with web-enabled screens:

- **Speed up data entry and reduce errors:** Incorporate drop-down lists, datepickers, radio buttons and autocompletes to reduce errors and the time it takes to look up and enter data. You can also add validation messages that appear immediately after a user incorrectly fills out an input field.

- **Improve navigation:** Function keys and subfile options are not common UI elements in today’s web-based world. You can turn function keys into clickable links and buttons to provide a more intuitive and consistent way to navigate screens. Tabs make information easier to digest by uncluttering screens and grouping elements together.
Increase end user productivity

You can further improve navigation with macros that shortcut users to their desired screens so they don’t have to navigate through multiple screens of menu options.

Arkansas Data Services increased end-user productivity by customizing their most-used screens. They replaced window lookups with drop downs or auto completes and added date pickers to speed up data entry. They also improved navigation and screen design by transforming subfile options into right-click context menus and splitting up busy screens into tabs.

Learn more and view screenshots »

Arkansas Data Services company website »
Improve workflows

A GUI gives you many opportunities to improve workflows. Most commonly, organizations replace pen-and-paper processes by giving personnel direct access to web-enabled applications. This eliminates the need to rekey information and leads to significant time savings.

Here are some additional ways you can improve workflows:

- **Direct data entry:** Reduce heads-down data entry by giving users the ability to enter the data themselves.

- **Mobile devices:** You can replace pen-and-paper processes by giving users mobile access to modernized applications.

- **Spreadsheets:** Create downloadable spreadsheets so users don’t have to copy and paste.

- **Videos:** Link to instructional videos on YouTube instead of using text-based F1 help.
A prominent health care company uses Presto to give their green screens a web GUI. This has increased operational efficiency by streamlining data entry and reducing keying errors. Lab technicians can now record and publish test results on the fly, which has eliminated the delays and errors associated with pen-and-paper data entry.

Learn more and view screenshots »
Easy access from anywhere, at any time

Web-enabled applications eliminate the need for you to purchase and install 5250 emulators for all of your end users. Instead, they can access the applications from web browsers on any PC, Mac, smartphone or tablet without installing any additional software. Web-based solutions are also easier to deploy compared to Client/Server applications that require installing the application and its updates on each PC. If you decide to provide access outside of your network, you can use VPN or SSL for security.

Alpine School District used Presto to modernize their IBM i applications and give their bus drivers access from outside the district. All employees, including remote users and those who use Macs, can now access the screens from anywhere, at any time.

Learn more »
Making your modernized IBM i applications accessible from tablets and smartphones allows you to extract even more value from the platform. This provides users with remote, convenient access to your applications. It also improves many business processes by replacing paper-based processes that require rekeying, and replacing stagnant information with real-time data.

Using an HTML5 approach makes the mobilized applications available on all popular devices through the browser. You can even create mobile applications that you deploy through an app store to take advantage of that deployment approach and of device-specific features, like using the camera to scan barcodes.

Here are examples of modernized screens used on mobile devices:

- **Sales representatives**: Pricing, inventory and contact information
- **CEOs**: View sales charts and other key metrics
- **Warehouse staff**: Scan items and replace paper-based processes
- **Teachers**: Take attendance
Improve business processes with mobile applications

A parts distributor got immediate buy-in from the company’s executive team based on a proof-of-concept for modernizing and mobilizing their green screen application. The organization’s forklift drivers now scan bins and use modernized screens on portable devices to complete seven million inventory item picks each year. Touch-friendly buttons make the application easy to navigate and larger fonts reduce errors by making details more visible.

View screenshots »
Provide access to customers and partners to improve service

You probably haven’t given business partners and customers access to your applications because green screens look outdated and require the end user to install a 5250 emulator. Repurposing your applications by offering self-serve, browser-based access to your applications is a much more attractive option after web enabling your screens.

You’ll provide better service by giving these users the capability to check inventory levels and place their own orders at their convenience. This also saves time for customer service representatives who no longer have to take phone calls to place orders or look up pricing and inventory on behalf of customers or partners. Some organizations even reassign these employees to work on higher value tasks.
Jay Pierce, President of JRP & Associates, repurposed a wholesale floral supplier’s order entry application. The application, which was originally only accessed by employees via green screen, now acts as an online B2B order entry and account inquiry. Clients can view invoices as PDFs, order products and self-manage their accounts.

Learn more »
Add more value with charts and other new functionality

Web enabling your IBM i applications gives you countless opportunities to visually represent data and take advantage of productivity features that aren’t possible to implement with green screens.

Here are a few ways that you can add more value to your applications:

- **Charts and dashboards:** Visually represent real-time data. This gives managers the big picture and the ability to drill down into the details.
- **Images:** Add images of products that users can reference when looking up items.
- **PDFs:** Link to PDFs of invoices and other documents.
- **Maps:** Show address locations with Google Maps to save dispatch or sales personnel time.
Add more value with charts and other new functionality

- TMISI’s CEO modernized their IBM i green screen programs and made users’ jobs easier with Presto. He added value to the applications with a visual sales and inventory dashboard, Google Maps, faster data entry and better screen layouts.

Watch video »
Leverage IBM i resources and future-proof applications

Your organization doesn’t need to hire new staff because IBM i modernization tools are typically designed for RPG programmers. This modernization approach also enables you to leverage the applications and ERPs that your programmers have spent years developing and maintaining.

As programmers retire, organizations will need to attract new programmers. Deploying a modern solution that uses conventional web technologies will make this easier because the latest generation of programmers are more familiar with web-based solutions than RPG or COBOL. Solutions that give you control over the client-side code allow you to further future-proof your applications so you can take advantage of current technologies.
Leverage IBM i resources and future-proof applications

- World Class Information Systems uses Presto to rejuvenate customers’ legacy Infor KBM ERPs with a new look and additional functionality, even without the source code.

World Class Information Services
company website »
Decrease training costs

It can take a long time to train users who are new to green screens and their unique navigation characteristics like subfile options and function keys. New users will almost always prefer modern web pages over green screen applications. Not only are GUIs similar to what people use on a daily basis, they also have consistent, mouse-driven navigation and intuitive input fields like drop down lists.

A television network that holds biannual telethons reduced training time by 33% after giving their green screens a web GUI with Presto because the screens are more intuitive and consistent to navigate.
Decrease training costs

“A lot of younger people don’t understand why they should have to use function keys. They’re used to a point-and-click environment. Now, with Presto, HR personnel and supervisors have no idea they’re still accessing the same old programs they had in the past. The only difference is that they can now use a mouse.”

Marjorie Crouse — Seneca Sawmill

Read Seneca Sawmill’s modernization story »
Integrate with other technologies, platforms and data sources

Web-enabled green screens are interoperable with other web technologies. You can provide a more seamless end-user experience by communicating with additional web applications and data sources.

For example:

- **Other web applications**: Link and pass parameters to other web applications (PHP, .Net, RPG CGI etc.).
- **Web services**: Use web services for credit card processing and retrieving data, such as shipment tracking information, from other servers.
- **Web technologies**: Use web technologies such as JSON and Ajax, and frameworks such as Bootstrap.
- **New data**: Embed new data to your screens that wasn’t part of the original program.
- **New development**: Extend your application by creating new screens.
- **Portals**: Access your modernized applications from web portals that include links to other web applications.
Integrate with other technologies, platforms and data sources

Inenco’s modernized shopping cart application uses Bootstrap, an HTML/CSS/JavaScript framework, to provide responsive and contemporary looks for partner applications. It also uses an ordering system that enables customers to enter Inenco’s shopping cart from other websites, shop for products, then return to the original website to check out.

Learn more »
BCD’s Presto is the fastest way to give your IBM i green screens and new RPG programs a modern web GUI
What is Presto

Now that you have a strong business case for IBM i modernization, you need the right tools to carry out your strategy. BCD’s Presto is a web enablement and modernization solution that helps IBM i programmers meet the shortest deadlines by automatically rendering IBM i green screens as web pages. With Presto, you can give existing green screens and new RPG programs a modern web GUI using the 5250 datastream or RPG Open Access. Presto also gives you endless opportunities to add new functionality.

- With Presto, you get immediate results out of the box and the most flexibility to add new functionality.
The benefits of using Presto

With Presto, you get:

- **Instant modern web GUI**: Out of the box, all of your existing green screens are instantly accessible as modern web pages. Presto automatically transforms all of your function keys and menu items into clickable buttons and links and provides other global configuration options.

- **No code changes**: Presto is non-invasive because you don’t need to make any changes to your RPG (II - IV), COBOL or DDS source using the 5250 datastream approach. Your proven code is left untouched and your green screens are still available to users who prefer them.

- **New development**: You can use the 5250 datastream or RPG Open Access to give new RPG programs a web GUI.

- **New functionality**: You have complete flexibility to enhance your screens with new UI elements like images, drop downs and tabs.
The benefits of using Presto

- **Charts:** Display real-time, visual data in charts and dashboards that gives users and management a picture of how the organization is performing.

- **Database-driven UI elements:** Populate dropdowns and autocompletes from DB2 data.

- **Extend screens beyond the 5250 datastream:** Use SQL queries to access data that’s not in the original program.

- **IBM i programmer success:** Programmers without HTML experience are productive right away using the Visual Editor to enhance screens.

- **User satisfaction and increased productivity:** Users will love the more visually appealing and intuitive screens. Web UI elements like autocompletes and datepickers make it easier to enter data and reduce training costs.

- **Easy deployment and access:** Your IT staff saves time because end users only need a browser to access the screens internally or
The benefits of using Presto

remotely from PCs, Macs or mobile devices. No ActiveX, Windows Servers, WebSphere or other software are required.

- **Mobile support:** Users can access Presto screens from tablets and smartphones. Presto includes a custom virtual keyboard for function keys and many features to further mobile optimize your screens.

- **Proven vendor:** BCD is an industry leader that has successfully helped thousands of organizations across many industries, like government, finance, healthcare, manufacturing and transportation, modernize. BCD’s tech support team is also consistently rated one of the very best.

If you’re interested in learning more about Presto or downloading a free trial, please visit [www.bcdsoftware.com/richgui](http://www.bcdsoftware.com/richgui)
“Out of the box, Presto converted our existing applications and OS screens into web applications that we can use on mobile devices, all without requiring us to change any code. I’m a 25+ year IBM i (RPG) developer but learning this tool was simple with a minimal learning curve. In my opinion, Presto should be shipped with every IBM i sold.”

Gene Schumaker — J.R. Simplot
BCD is a Quadrant Software company and one of the most successful software organizations in the IBM i marketplace. BCD and Quadrant have a combined 60 years in the IBM i marketplace and have successfully helped thousands of organizations worldwide modernize. Together, BCD and Quadrant help customers maximize their investment in IBM i with their web development, mobilization, business intelligence spool file beautification and document distribution tools.

For more information, please visit http://www.bcdsoftware.com.