



# ProGen Plus with ILE module

Multiple Award Winning System i Application Generator and Report Writer

## ProGen Plus lets you create your own solutions fast and easy

Voted the best Application Development tool five times in a row, ProGen Plus, and the ILE add-on module provide you with the technology that let's you create your own solutions. Over the past 30 years, thousands of commercial-quality applications, programs and reports have been built and deployed with ProGen Plus. It can best be summarized as the most affordable, easy-to-use and automated iSeries Program Development Tool and Report Writer.

50,000+ Ballots were sent, and the industry voted ProGen Plus the 'Best System i Program Generator, CASE Tool or 4/GL Product.'

You can quickly develop 13 different types of robust programs 8 to 20 times faster!

- Subfile maintenance
- Subfile inquiries
- Single Record with or without prompt
- Window Lookups
- Powerful Reports with CL & Prompt programs
- Flexible Queries and Query Views
- Batch update processing
- Header/Detail record processing (Order/entry-inquiry)
- Transaction file...

ProGen Plus combines the ease of use of template-based program design with the power of business and data modeling features to give you the most productive and flexible environment for building robust 5250-based business applications. It will let you significantly reduce or eliminate slow line-at-a-time programming and bring you into the world of proven, automated program development all while using existing skill sets.

## Integrated solution

ProGen Plus easily fits into any System i environment, and has add-on products including: Award Winning WebSmart or WebSmart PHP (multi-platform) to extend your iSeries applications to the Web. DbGen extends your file/field company standards to flow directly into ProGen Plus created programs. Catapult or Spool-Explorer provide automated or end-user driven report distribution to PCs, e-mail, PDF, HTML, form overlays... and EZ-Pickin's lets users do for Report Mining and Data Extraction from existing reports.

- New App Development
- Legacy Coded Systems
- Third Party Applications

ProGen Plus, with 2,500+ installations, is the proven System i leader in Automated Program Development and Report Writing. It works great in any environment that has new or existing DDS files. Use the power and flexibility of this template based system for Report Writing, developing and maintaining new iSeries programs and applications truly 8 to 20 times faster than manual efforts.

## Developing programs the very first day

You will be able to work with any System i DDS files with BCD's Development tools. Select from many types of programs to develop, choose from different screen / report design options, add and save your company standards for reuse (e.g. positioning of company headings, program name, user ID, date, time, function keys ... and more), and even add customized program standards (e.g. validations, work fields, program calls, parameter passing, help text, window calls, additional editing, add customized code, pull in external routines ... and more) to produce professional programs and applications. It automatically handles such logic as record locking, work with concepts, rolling forward and backward in subfiles... so you won't have to. ProGen Plus is so easy to use you'll be developing programs the very first day.

ProGen Plus has many System i Industry Awards and continually receives high praise throughout the industry

**Everyone will appreciate the speed of development and the quality of work that gets produced, while saving your company valuable time and money.**



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**ProGen Plus®**

## Save time

Produce professional programs and applications. It automatically handles such logic as: record locking, work with concepts, rolling forward and backward in subfiles ....So you won't have to.

- **Key in Algebraic equations that are converted into RPG/400 source calcs.**
- **Key in your own source calcs or pull in RPG routines you may have already developed.**
- **Create work fields, validations, parameter passing, program calls....**
- **Use the robust built in Actions Editor to add pre-written logic.**

## Extend the Power of your Applications

The Actions Editor is a very powerful feature in ProGen Plus. You can use single Action keywords to create complete sections of logic. Another helpful feature is the USRCOD action. It calls routines you have previously developed and pulls them into the created programs. This allows you to manage a routine in one area that may be called by many programs instead of maintaining the routine in each of those programs.

This takes advantage of object oriented concepts.

If you want, you can even edit the source code using SEU or WDS, outside of ProGen's design tool, add your own logic within the insertion points and recompile it. When you edit that same program in ProGen's design tool later, all your external changes will be retained!

The programs you develop with ProGen utilize your own file and field names from your DDS files or SQL tables, so the generated code is easy to read. You'll have no need to worry about cryptic, generated field names that are impossible to track. All the generated source is well documented, structured and readable.

You'll also save significant amounts of maintenance programming time! ProGen Plus's Central Repository automatically keeps track of every program you develop, including the files each program references, and the layout of each of those files. So when you or third party vendors make changes to DDS files or SQL tables, you simply tell ProGen Plus what files have changed. It automatically updates every program you developed that reference those files and to use the new file/field definitions for you. Finally, it will make screen and report changes, and document if any of the new fields could not properly fit on the affected screens or reports so they can be manually updated through ProGen. Then just regenerate the programs from the list provided.

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**ProGen Plus is one of the best application generator tools I have come across in my career. This tool helps me develop different styles of programs quickly and accomplish more work in less time. I wish I had come across ProGen Plus earlier!"**

J. Srin

DHL Express ([www.dhl.com](http://www.dhl.com))

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There are 3 levels of ProGen Plus: Most programming needs fall in the entry and middle levels.

- **Entry level**      Develop programs the very first day: Single file type programs... e.g., Reports, Queries, Subfile: Maintenance, Inquiry and Windows...
- **Middle level**    Multi-file programs and reports, parameter passing, program calls, validations, work fields...accomplished within days of first utilizing ProGen Plus.
- **Advanced level**   Powerful actions editor, sophisticated Order/Entry type programs, batch update, powerful file reports that update auxiliary files... and much more.

## ProGen Plus ILE add-on module

Automatically develop and maintain native ILE/RPG source code and begin taking advantage of the new language features such as longer 10 character field names, new op codes and more. This add-on module includes an ILE/RPG Generator Engine and New ILE/RPG templates that immediately lets you take advantage of the ILE functions available in OS/400. The Code produce is 100% native generated RPGIV code that uses native RPG/IV syntax. In addition, Activation Groups, Bound modules, Binding Directories, Service Programs and more, are fully supported, allowing the implementation of true ILE-capable applications.

## ProGen Plus main features & benefits

```
C - Add/Update Records:
D - File Inquiry with li
E - Transaction Entry:
F - Report Program
H - File lookup using wi
K - Edit record accessed
L - Prompt panel (no pr
```

13 templates to choose from

### Rapid Development Environment

- **13 templates to choose from** - You can quickly develop 13 different types of robust programs by selecting from the following types of templates: Subfile maintenance, Subfile Inquiries, Single Record with or without prompt, Window Lookups and more.
- **Sophisticated Wizards** - During program creation sophisticated wizards will help you add files with links, referential integrity, subset by key field, create function keys and more.
- **Develop Fully functional subfile programs** - ProGen's various subfile templates automatically handle all the complexities of subfile programming for you.
- **Reusable Validation Modules** - Field validation modules can be automatically built by ProGen Plus, or you can type in your own custom routine, via SEU. A validation module becomes a separate, compiled program or module object and can be reused in any ProGen program.
- **Use existing or new database files (DDS files or SQL tables)** - Use any existing or new DDS files or SQL tables within ProGen.
- **Actions Editor reduces any code for added functionality** - You can use Actions to perform special functions that are outside of the normal flow of logic for each style of program.

### Full Featured Development Software

- **WYSIWYG Screen Design** - ProGen has its own WYSIWYG called the Panel Design Aid (PDA).
- **Work fields** - You can quickly create different types of workfields in ProGen such as substrings, concatenations, totals, menu options, error message as well as various date workfields.
- **Central Repository** - ProGen uses its Central Repository to keep track of file layouts and usage. It automatically keeps track of every program you develop, the files each program references, and the layout of each of those files.
- **Change Management** - ProGen comes with a built in Change Management system that handles program objects, source and ProGen definitions. You can create multiple environments, track development efforts and move or copy objects from one environment to another.

### Report Writer

- **Report Panel Design Aid** - The Report Panel Design Aid is used to design the layout of the report.
- **Level Breaks and Sort Order** - From the Preliminary Report Layout Design Screen you can define your level breaks and your sort order.
- **Totals, Sub Totals and Record Counters** - Totals and sub totals can automatically be added to your report from the Preliminary Report Layout Design Screen or the field selection prompt.

### Powerful and Flexible Development Environment

- **Customize with user written RPG code** - ProGen Plus provides several methods for modifying programs to allow you to add your own RPG code.
- **Generate and manage ILE code and objects** - The add-on ILE module which uses a different generator and allows you to manage ILE objects (programs, modules and service programs).
- **SQL support** - There are 2 Actions in ProGen to support SQL: SQLEXEC and SQLQUERY. These actions allow you to directly add SQL queries and execution statements.
- **Template modification including standard headers** - You can customize to look of each template including adding your own company header by running the ZDSNPNDL command.
- **Error Handling** - All generated ProGen Plus programs use a standard message subfile, and standard message subfile handling subroutines to present error messages to the user.

For a overview of all features and benefits of ProGen Plus and ProGen Plus ILE please visit: <http://www.bcdsoftware.com/series400solutions/progenplus/productinfo/features/tour/index.htm>

```
Target Platform . . . .
Allow records with dupli
Protect key fields in Up
Key fields entry panel i
PDM cursor compliance .
Define a "Create" Functi
Define a "Delete" Functi
```

Sophisticated Wizards

```
Type options, press Ent
  2=Change  4=Delet
Order  Order
Opt Number  Description
_  100001  acoustic gui
_  2  100004  Miscellaneou
_  100007  banios
```

Develop Fully functional subfile programs

```
Type option, press Ent
  1=Select
Program Attributes
_ Key field options
_ subfile options
_ Function keys
```

WYSIWYG Screen Design

```
Valid Classes are:
*CONCAT Concatenation
*SUBSTR Substring
*RESULT Calculate result
*VALUE Constant value
*PANEL Panel input
*MNUOPT Menu option
```

Quickly create different types of workfields

## ProGen Plus ILE / RPG (Add-on Module)

Now you can automatically develop and maintain native ILE / RPG source code and take advantage of RPGIV features such as longer field names, new op codes, built-in functions, free-format or fixed format coding... and more with ProGen Plus ILE/RPG. And, as IBM improves ILE/ RPG, so will we keep adding more and more features to ProGen Plus ILE/RPG to constantly help you improve your productivity.

### Benefits of ILE / RPG development

The ILE/RPG development environment lets you take advantage of features of RPG that are only available in ILE.

These include:

- EVAL action, which lets you write free-format calculations.
- Free-format conditionals (IF's, etc.).
- SQL Support, allowing you to embed SQL instructions directly into your definitions.
- Extended data type support, especially for date, time and timestamp fields, making it much easier to perform date-related calculations.
- Support for extended length field names.
- Ability to embed and retain hand-written ILE code in either fixed or free-format directly in the generated source code.
- Support for ProGen Plus work fields that are designed for use with the ILE generator.
- ILE-specific object support- including the ability to use modules and service programs.
- Support for CALLB actions in the Actions Editor.
- Optional use of objects of type \*MODULE for validation modules.
- Full support of ILE RPG in the Report Writer also.
- Automatic management of compilation processes for ILE objects.

ProGen Plus ILE/RPG also supports the use of ILE components such as bound modules and service programs. It automatically manages references to these objects at compile time, so you don't have to worry about correctly binding in objects to your programs. Also, you can choose to reference any ILE module or service program in your ProGen-designed applications. This gives you access to all the power and flexibility of a true ILE environment, including support for ILE activation groups to improve run-time performance.

```
Action: EVAL Valid
VILE = %SUBST(SVILE:1:DX
%subst(SVILE:NX:StrLen-NX
F3=Exit ..F12=Cancel...
```

Free-format IF and EVAL statements

```
16=ZCVTTOILE DM=Messa
Program Object
Opt Definition Library
CLINV GN#LIB
16 INVOICES GN#LIB
INVPROMPT MARCEL
MASDAV1 MARCEL
```

Convert existing definitions to ILE

```
OOO 4 CIINVAMT
5 CIINVDSC
6 CISHPAMT
BBB 7 CITAX1AMT
8 CITAX2AMT
F5=Prev F6=Next
```

Support for 10 character database field names

◀ **These are just a few features of ProGen Plus ILE.** Please visit <http://www.bcdsoftware.com/series400solutions/progenplus-ile/productinfo/features/index.htm> to view all features available to you.

## Take Full Advantage of the Native ILE Environment

### Features of the Generated Code

The code produced by the ILE RPG generator is 100% native, generated ILE RPG code. It is not simply RPG/400 code that has been run through a converter. The advantages to you are:

- You get true native, clean generated code that is easy to read.
- You can use our code as an educational tool to get you up to speed with ILE RPG coding constructs.
- You can easily insert your own fixed or free-format ILE code in the generated source and retain the changes.
- You can take better advantage of code reuse by using ILE-generated code.

To try ProGen Plus on a Free download visit [www.BCDsoftware.com](http://www.BCDsoftware.com)

BCD is the winner of 35+ Industry Awards • 10,000+ Customers • 30,000+ Software Products Sold



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ProGen Plus®