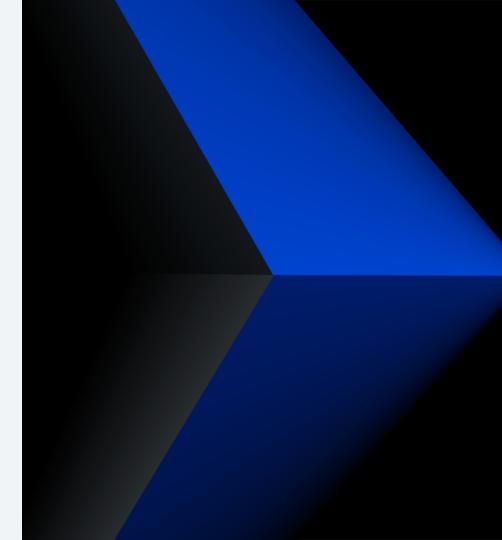
Compiler Roadmap

JT Plotzke z/TPF Applications Support Squad



Disclaimer

Any reference to future plans are for planning purposes only. IBM reserves the right to change those plans at its discretion. Any reliance on such a disclosure is solely at your own risk. IBM makes no commitment to provide additional information in the future.



As Is

GCC 4.6 (PJ39969 – Oct 2012)

libstdc++ 4.6

C11 experimental support C++11 experimental support

GNU lifecycle support: 2011/03/25 – 2013/04/12

Dignus 1.98 (PJ42285 – Oct 2014)

libstdc++ 4.6 (mirrors GCC 4.6)

C11 experimental support C++11 experimental support GCC 7 (PJ45408 – Mar 2019)

libstdc++7

C11 full support (optional) C++11 full support C++14 full support (default)

GNU lifecycle support: 2017/05/02 – 2019/11/14 C libraries

glibc 2.3.2 (CISO and CLBM)

Separate OCO, POSIX threads library (CTHD)

Recent GCC 7 deliverables

- PJ45408 / tpf-17r1-1 Mar 2019
- PJ45799 / tpf-17r1-2 Oct 2019
- PJ46042 / tpf-17r1-3 Jan 2020
- PJ46318 / tpf-17r1-4 Dec 2020
- PJ46408 / tpf-17r1-5 Jan 2021

GCC 7 support

Selectively skip function trace support

tpf-17r1-2 not backwards compatible

ICE uncovered in tpf-17r1-3

Prebuilt tpf-17r1-4 incompatible with many Linux on Z systems

Recent GCC 7 deliverables

1. PJ45408 added support for GCC 7 (compiler release tpf-17r1-1)

- Updated z/TPF libraries as needed to support GCC 7
- Delivered new version of libstdc++ (CPP1) compatible with GCC 7
- Support for full C++11 and C++14 standards

2. PJ45799 added support to selectively skip function trace (release tpf-17r1-2)

- Feature exclusive to GCC 7 compiler
- Can remove function trace entries that have no diagnostic value and reduce time spent in function trace processing
- Enabled for glibc (CISO) and libstdc++ (CPP1) libraries

Recent GCC 7 deliverables

- 3. PJ46042 corrects an issue with tpf-17r1-2 not being backwards compatible with APAR levels prior to PJ45799 (release tpf-17r1-3)
 - Preventative measure, no z/TPF rebuild requirements
 - Will always have a z/TPF APAR coupled with a compile update for maintability
- 4. PJ46318 corrects an internal compiler error (ICE) uncovered in all versions of GCC 7 (release tpf-17r1-4)
 - ICE has no run time impact, no z/TPF rebuild requirements
- 5. PJ46408 repackages GCC 7 pre-built binaries to be compatible with more Linux on Z systems (release tpf-17r1-5)
 - No issues with source or any applications that already compiled, no z/TPF rebuild requirements

As Is

GCC 4.6* (PJ39969 – Oct 2012)	Dignus 1.98 (PJ42285 – Oct 2014)	GCC 7 (PJ45408 – Mar 2019)	C libraries
libstdc++ 4.6	libstdc++ 4.6 (mirrors GCC 4.6)	libstdc++ 7	glibc 2.3.2 (CISO and CLBM)
C11 experimental support C++11 experimental support	C11 experimental support C++11 experimental support	C11 full support (not default) C++11 full support C++14 full support (default)	Separate OCO, POSIX threads library (CTHD)

To Be			
GCC 7* (PJ45408 – Mar 2019)	Dignus 2.25 (Target 2H 2021)	GCC 11* (Target 1H 2023)	C libraries (Target 1H 2022)
libstdc++ 7	libstdc++ 7 (mirrors GCC 7)	libstdc++ 11	glibc 2.33 (CISO, CLBM, and CTHD)
C11 full support (default) C++11 full support C++14 full support (default) C++17 experimental support	C11 full support (default) C++11 full support C++14 full support (default) C++17 experimental support	C11 full support (default) C17 full support C20 experimental support C++11, C++14 full support C++17 full support (default) C++20 full support	Native POSIX threads library (NPTL) included in glibc

^{*} Expect GCC 4.6 statement of deprecation this year, targeting the end of 2022 to formally discontinue support.

Thank you

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