Authorized Use Table for Machines

IBM

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The use of Machine Code (also referred to as MC) is subject to the terms of this IBM Authorized Use Table for Machines (Attachment). This Attachment provides a list of authorized uses of MC by type of Built-in Capacity (also referred to as BIC) acquired from IBM (or an authorized IBM reseller) for the agreed to consideration and which IBM licenses for use on the Machine. To the extent of any conflict between (i) the descriptions of the authorized uses in the table below or the general use of BIC and (ii) IBM's actual implementation of such uses through IBM's technological or other measures that restrict, monitor or report on the use of BIC or MC, the more limited scope of uses takes precedence.

1. Authorized Use Table

Type of Built-In Capacity	Authorized Use(s) of Machine Code
System z Machines	
General Purpose Processor (GP) (also sometimes referred to as a Central Processor or CP, General Purpose Processing Capacity or CP Processing Capacity).	Executing any program.
Integrated Facility for Linux (IFL)	Executing some or all of the following: a. the IBM z/VM product and features (z/VM), the z/VM Control Program (z/VM CP), the Group Control System (GCS), the Conversational Monitor System (CMS), and the stand-alone utilities DASD Dump/Restore, Device Support Facilities, Stand-Alone Dump, and Stand-Alone Program Loader, when such product and features are executed solely in support of the Linux on z or the OpenSolaris operating systems; b. the Linux on z or OpenSolaris operating systems; c. any program, provided such program is executing under the Linux on z operating system or the OpenSolaris operating system; and d. any program, provided such program is executing under CMS or GCS, when executed solely in support of the Linux on z or the OpenSolaris operating systems executing in a z/VM Guest Machine or in support of programs executing under such Linux on z or OpenSolaris operating systems.
System z Application Assist Processor (zAAP)	Executing some or all of the following: a. the IBM SDK for z/OS, Java Technology Edition (commonly known as the IBM Java Virtual Machine) (JVM), and IBM z/OS operating system (z/OS) base elements properly invoked by the JVM; b. JVM translations of programs written in the Java programming language, provided all of such translation is solely controlled by the JVM; and c. z/OS XML System Services running in z/OS task mode, and z/OS base elements properly invoked by such XML System Services.

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System z Integrated Information Processor (zIIP)	Executing some or all of the following: a. the System Data Mover of z/OS (SDM), and z/OS base elements properly invoked by the SDM; b. the Common Information Model of z/OS (CIM) base element of z/OS and IBM and certain non-IBM "CIM Provider" routines communicating information on, to, or from managed resources using the CIM model, including z/OS services properly invoked by the CIM base element or by such CIM Provider routines, when such z/OS services run in the same address space as the CIM base element. Non-IBM CIM-Provider routines, in order to maintain zIIP eligibility, must maintain timely communication with the CIM base element, as determined by the CIM base element; c. z/OS XML System Services running in z/OS service request block (SRB) mode under a z/OS Workload Manager (WLM) enclave (Enclave SRB Mode), and z/OS base elements properly invoked by such XML System Services; d. portions of any program running in Enclave SRB Mode and z/OS base elements properly invoked by such program portions, provided: (i) if the program is not an IBM program, the program owner is licensed to the zIIP Application Programming Interface (zIIP API) from IBM, the program utilizes the zIIP API as designed by the program owner and in compliance with the zIIP API license from IBM, and the portions of such program processing dispatched to a zIIP does not exceed the portions of such processing designed solely by the program owner to be so dispatched; or (ii) if the program is an IBM program, the portions of such program processing dispatched to a zIIP does not exceed the portions of such processing designated by IBM technological or other measures that restrict, monitor or report on the use of BIC or MC to be so dispatched. For example, it would be an Authorized Use of a zIIP on a System z9, z10, z196 and z114 and on subsequent mainframes to process up to sixty percent (60%) of the DB2 for z/OS (Versions 8, 9, 10 and subsequent versions) processing of native SQLPL (Structured Query Language Procedural Language) requests when running in Enclave SRB Mode and accessing DB2 for z/OS via DRDA (Distributed Relational Data Architecture) over a TCP/IP connection. In this example, the program (DB2 for z/OS) would be invoking the zIIP API as limited by IBM's technological or other measures that restrict, monitor or report on the use of BIC or MC within DB2, without circumvention, and the portion of the DB2 for z/OS instructions dispatched to the zIIP, would not exceed the portion designated by such technological or other measures that restrict, monitor or report on the use of BIC or MC, without circumvention, to be so dispatched. In this example, only such portion of DB2 for z/OS processing is considered an eligible workload for the zIIP. As a further example, it would be an Authorized Use of a zIIP on a System z9, z10, z196 and z114 and on subsequent mainframes to process the following after reaching a "CPU Usage Threshold": up to eighty percent (80%) of the processing of long-running parallel queries for DB2 for z/OS (Versions 8, 9, 10 and subsequent versions), as designated by IBM technological or other measures that restrict, monitor or report on the use of BIC or MC within the DB2 for z/OS Query Optimizer, without circumvention. Note: IBM establishes the "CPU Usage Threshold" for each System z Machine type. In this example, only such portion of DB2 for z/OS processing is considered an eligible workload for the zIIP; e. DFSMS SDM of z/OS processing associated with zGM/XRC, including z/OS base elements properly invoked by z/OS DFSMS SDM; f. portions of programs authorized to execute on a zAAP, provided there is no zAAP installed on the Machine, except to help facilitate testing and migration of zAAP-eligible workloads on a zIIP; and

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	g. any program that is able to run on a Linux operating system instance on an IBM Z machine, that is deployed in an IBM z/OS Container Extensions (IBM zCX) server during its execution. An IBM zCX server is provided by IBM as part of z/OS that implements a Linux virtualized environment, as defined and controlled by IBM's technological or other measures that restrict, monitor or report on the use of BIC or MC. h. When initiated and managed by Java programs eligible under clause f, native language library calls to programs created by compiling Open Neural Network Exchange (ONNX) artificial intelligence models, which must use a qualified ONNX model compiler, with program created using the z/OS program management binder. All such compilation of ONNX artificial intelligence models into a program must be solely controlled by the elements defined above and are intended only for the purpose of execution of artificial intelligence model predictions executing on z/OS. This execution includes only ONNX operators defined to run directly on z/OS. i. z AI Data Embedding library of z/OS when invoked using the provided Java native application program interfaces.

General Purpose Processor (GP) (also sometimes referred to as a Central Processor or CP, General Purpose Processing Capacity or CP Processing Capacity), AND/OR System z Integrated Information Processor (zIIP), during a System Recovery Boost "boost period"	Executing any program, during the limited System Recovery Boost periods, as defined and controlled by IBM's technological or other measures that restrict, monitor or report on the use of BIC or MC.
	System Recovery Boost periods may occur as follows, within a particular Boosting partition:
	
	● System IPL boost periods – System IPL boost periods occur only during System IPL, defined as the period from operating system initial startup through the middleware/program startup and recovery processing that immediately follows IPL. System IPL boost periods are restricted to a duration of at most 60 minutes, and to a reasonable frequency of IPLs per partition in support of business operations *1, by IBM's technological or other measures.
	
	● System Shutdown boost periods – System Shutdown boost periods occur only during System Shutdown, defined as the period starting with an indication of shutdown using proc IEASDBS immediately preceding the middleware and operating system actions to terminate operating system processing. System Shutdown boost periods are restricted to a duration of at most 30 minutes, and to a reasonable frequency of IPLs per partition in support of business operations *1, by IBM's technological or other measures.
	
	● Recovery Process boost periods – Recovery Process boost periods are restricted to at most 5 minutes' duration per boost, and are limited to at most 30 total minutes per partition per 24 hour period (aggregating across all Recovery Process boosts), by IBM's technological or other measures. Recovery Process boost periods are started and ended solely by z/OS operating system-controlled events. The applicable events for Recovery Process boosts are limited to:
	
	  ● HyperSwap
	  ● Coupling Facility data sharing member recovery
	  ● Coupling Facility structure recovery
	  ● Sysplex partitioning
	  ● SVC Dumps
	  ● Middleware starts/restarts for client-selected middleware regions
	  ● HyperSwap Config Load
	
	During any of the aforementioned System Recovery Boost periods, any available program within the Boosting partition may be executed on a General Purpose Processor running at full-capacity speed, and/or be executed on a zIIP processor, as defined and controlled by IBM's technological measures.
	The foregoing Authorized Use described for System Recovery Boost for System IPL, System Shutdown, HyperSwap, Coupling Facility data sharing member recovery, Coupling Facility structure recovery, and Sysplex partioning is only

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	applicable to Machine Type 8561, z15 family of IBM Z processors and subsequent generations to that family. The foregoing Authorized Use described for System Recovery Boost for SVC Dumps, Middleware starts/restarts for client-selected middleware regions, and HyperSwap Config Load is only applicable to Machine Type 3931, z16 family of IBM processors and subsequent generations to that family. *1 An example of what IBM considers a reasonable frequency of IPLs would be 10 or fewer IPLs in a consecutive 30-day period, with each IPL experiencing a System IPL and/or a System Shutdown boost period.
Power Systems Machines	
Cores of a General Purpose Power Systems Machine	Executing any program.
Cores of a Linux-Only Machine	Executing some or all of the following: a. a Linux operating system that is supported by IBM for use on the Power Systems Machine; and b. any program, provided such program is executed under a Linux operating system as specified in (a).
Power Integrated Facility for Linux	a. Executing in one or more dedicated logical partitions a Linux operating system that is supported by IBM for use on the Power Systems Machine; and b. any program, provided such program is executing under an operating system specified in (a) above.
Coherent Accelerator Processor Interface (CAPI)	Use of CAPI-enabled PCIe adapters for CAPI input/output capability.

IBM Appliance Offerings	
Cores / Processors of an appliance Machine	Executing any program, but only if all Machine and Program components provided by IBM as an integrated offering are maintained in the same integrated offering.
All IBM Product Lines **(including those separately identified in this table which are also subject to the additional Authorized Use(s) described below)**	
IBM Designated Maintenance Facilities	Executing Machine Code to maintain the Machine by utilizing the IBM designated maintenance facilities but only in a manner as authorized by IBM.

2. Modification of this Attachment

IBM may modify this Attachment at any time. New authorized uses apply to existing and subsequently acquired BIC; additional restrictions apply only to a subsequently acquired authorized use of BIC. Subsequently acquired authorized use of BIC includes, without limitation (i) acquisition of additional authorized uses of BIC, (ii) recharacterization of authorized use of BIC (for example, conversion of an IFL into a zIIP), and/or (iii) carrying forward existing authorized uses of BIC from one product family to its successor product family, with or without a charge (for example, carrying a zIIP forward as part of an upgrade from an IBM System z196 Machine to an IBM System zEC12 Machine).

This Attachment is effective as of the date specified above and supersedes all prior Authorized Use Tables for Machines, and applies until a newer version of this Attachment (or its equivalent) becomes effective. The currently effective version of this Attachment is provided at the following address: http://www.ibm.com/systems/support/machine_warranties/machine_code/aut.html.

3. Additional Terms and Conditions Not Applicable to the Client Relationship Agreement

The following additional terms and conditions apply where this Attachment is used in connection with the IBM License Agreement for Machine Code dated 2012 (License Agreement), a copy of which is available from IBM upon request.

3.1 Definitions

All capitalized terms not defined in this Attachment have the meanings ascribed to them in the License Agreement.

The following definition of Authorized Use applies to the terms "authorized use" as used in this Attachment:

Authorized Use – the use of IBM Machine Code to access and use Authorized Built-In Capacity to process the types of executable code, or certain percentages of portions thereof, as specified in this Attachment and as actually implemented by IBM's Technological Measures.

The following definition of Covered Machine replaces the definition found in the License Agreement:

Covered Machine – the specific Machine for which use of Machine Code is licensed under the terms of this License Agreement. Each Covered Machine is a serial numbered IBM Machine that is acquired by or otherwise transferred to Licensee from any party, and may be identified by serial number or order number on a Transaction Document. A Covered Machine that receives an Upgrade remains a Covered Machine and a Machine that receives an Upgrade becomes a Covered Machine; a Covered Machine includes without limitation a Machine specified by IBM as an Acceptance-By-Use Machine.

The terms "IBM's technological or other measures that restrict, monitor or report on the use of BIC or MC" as used in this Attachment shall be replaced with the defined term **Technological Measures** in the License Agreement.

The term "circumvention" as used in this Attachment shall be replaced with the defined term **Circumvention** in the License Agreement.