

MIBB Statement of Work

Global Total Microcode Support (GTMS)

1. Service Description

MIBB provides Global Total Microcode Support (GTMS or Services) for Microcode (the supported microcode, firmware, and Basic Input Output System (BIOS) levels (not including any beta versions) provided that Client has a license for the Eligible Products and their internal disks and adapters) specified in the Schedule. GTMS may include Analysis Services and Update Services, as further described below and documented in the Schedule. The type and frequency of the Services, service levels, charges, contract period, covered products, and locations for onsite Services are defined in the related Schedule for each contract year. Additional products added after the start date are listed in a separate schedule. As a mandatory prerequisite for the Services, each of the Eligible Products for which GTMS will be provided must be (i) fully operable upon the commencement of the Services, (ii) on a supported Microcode and software level, and (iii) covered by an MIBB maintenance Service or equivalent MIBB Service or under MIBB warranty during the entire SOW term. Systems running IBM i, and Storage Area Network (SAN)/Storage products where MIBB software maintenance is available, must also be covered by an MIBB software maintenance agreement. In addition, supported System i, System p and Power Systems Microcode Support Eligible Products must be configured in a way that IBM Data Collection Tool can connect to them and retrieve Microcode information. The Services as described, when delivered on storage products, require the installation and configuration of the IBM Data Collection Tool for the entire SOW term. For withdrawn products, that are under Hardware Service Extension (HWSE), GTMS is eligible only until the current code level that was developed at the time the machine was withdrawn from Service. For the avoidance of doubt, GTMS under HWSE does not include development of any new machine code updates, patches, or fixes (including those designed to address security). IBM publishes its responses to security vulnerabilities at its IBM Product Security Incident Response (PSIRT) blog found here: <https://www.ibm.com/blogs/psirt/>.

MIBB may at any time modify the current list of supported Products for which GTMS is available. Upon request, MIBB will provide the current list of supported Products for which Microcode Support is available. MIBB will provide the Services through its subcontractors and affiliates.

1.1 Global Total Microcode Support — Analysis

MIBB will provide Analysis Services for the number of instances set forth in the Schedule.

MIBB will verify whether the recorded Microcode levels of the inventoried Eligible Products are current, considering any dependencies on the operating system and driver levels. Any dependencies between connected Eligible Products will also be verified for Products that have been included in the inventory for the Services. For dependencies related to products not covered by this Service, support will be limited to informing Client about the possibility of interoperability problems relating to the Microcode to be used. Verification of the dependencies within a SAN (ensemble of communication paths, products and programs that enable the interconnectivity between data storage devices and associated data servers) will be completed only if GTMS has been purchased for the connected SAN components.

For storage products that include software instead of Microcode, MIBB will verify the recorded software levels of the inventoried eligible storage products are up to date, considering any dependencies on the operating system and driver levels. Any dependencies between connected Eligible Products will also be verified for Products included in the inventory for the Services. For dependencies related to products not covered by Services, Services will be limited to informing Client about the possibility of interoperability

problems relating to the Microcode or software to be used. Verification of the dependencies within a SAN will be completed only if GTMS has been purchased for the connected SAN components.

MIBB will provide Client with a support plan specifying detailed information about whether the Microcode levels for the respective Eligible Products are current, including recommendations for an upgrade, and the recommended upgrade levels, if necessary. In case the Microcode upgrade recommendations require upgrades of device drivers, the resulting recommendations of device driver updates will also be provided. Client remains responsible for decisions regarding the use of updates or their application.

1.2 Global Total Microcode Support — Update Services

MIBB will provide Update Services for the number of instances set forth in the Schedule.

If specified for Update Services in the Schedule, in addition to the Services specified in the "Microcode Support — Analysis" section above, MIBB will implement updates of the Microcode and software levels at the Specified Locations. Client will inform MIBB which updates indicated in the support plan are to be implemented. Client remains responsible for implementing the updates for the device drivers and the operating system.

If Remote Code Load is selected, MIBB will provide hardware and software code updates for the covered products as specified in the Schedule, on targeted systems at the specified locations, either once or twice a year as indicated on the Schedule. Code updates will be performed by remote MIBB support personnel, not an onsite Support Services Representative (SSR).

If On-Site Code Load is selected, MIBB will dispatch an SSR to perform code updates at the specified locations. Additionally, Client will have the option to request Remote Code Load, instead of On-Site Code update, if MIBB provides Remote Code Load for the specified Machines. For On-Site Code Load and Remote Code Load eligible Machines under the GTMS offering, refer to the link: <https://www.50.ibm.com/services/supline/products/TMC.html>

System firmware updates will be performed by MIBB based on the Firmware Update Policy setting in ASMI (Advanced System Management Interface). If the server has a Hardware Management Console (HMC) attached, the firmware update / upgrade can only be performed from the HMC, otherwise the default source for installing firmware updates is the operating system (PTF / RPM). Several System i PTFs may be combined in groups or packages. The installation of these packages helps enable the reduction of system failures and/or the addition of functionalities. Additionally, the Group HIPER PTF's (High Impact Pervasive PTFs that help to reduce or eliminate errors that may have a heavy impact on the system's functionality) for updating the different hardware components of any relevant IBM i partitions will also be installed.

Client remains responsible for implementing the installation of Cumulative System i PTF Packages (program fixes for a specific release of the i5/OS operating system and the related licensed programs).

By providing an update of the Microcode level on an Eligible Product, IBM does not provide any additional warranty concerning the Eligible Product, its Microcode, or its performance.

1.3 Services Coordination

MIBB will align a Technical Relationship Manager (TRM), MIBB's contact person to coordinate with Client for the provision of the Services and coordinates the implementation of the Services within MIBB, who will:

- a. work with Client to establish an inventory of the Microcode levels installed on the Eligible Products. The initial inventory will be performed on-site at Client's Specified Locations as indicated in the Schedule, by Client or MIBB as mutually agreed to;
- b. install the IBM Data Collection Tool on Client's designated server as described in IBM Tools. The TRM will work with Client to document the:
 1. Operating system levels,
 2. Microcode and driver levels,
 3. Software levels for storage products, and

4. HBAs (host bus adapters), provided that these Services have been agreed upon for the connected Eligible Products.
- C. If Remote Code Load (RCL) is selected, the TRM will work with Client to:
- (1) set a time and date for the software update,
 - (2) collect the information for the personnel who are to be involved in the update,
 - (3) get the SIN of the system to be updated, and
 - (4) schedule an RCL with the RCL Team responsible for the update.

2. Client's Responsibilities

Client agrees to:

- a. name a technical contact to be available as Client's Point of Contact with respect to the coordination of the Services, to include coordinating the time schedule for pending actions with the MIBB TRM and ensure Client's observance of the agreed schedule;
- b. provide access to Client's Specified Locations as mutually agreed to by the parties;
- c. provide the MIBB TRM with all necessary information requested about the system configuration and provide an outline of its SAN topology upon request;
- d. ensure that MIBB will have access to the Eligible Products for querying the required system data, or, if deemed possible by the MIBB TRM, ensure that Client provides the required system data identified by MIBB. Client hereby approves the use of IBM Tools enabling MIBB to query the Microcode levels or the required data; e. remain solely responsible for security of the network, and responsible for any data and the content of any database Client makes available to MIBB in connection with the Services, the selection and implementation of procedures and controls regarding access, security, encryption, use, and transmission of data, and backup and recovery of the database and any stored data;
- e. notify the MIBB TRM of changes to the Eligible Products in a reasonable timeframe, and of updates to the Microcode, drivers or operating system, that are not documented in the support plan. MIBB will update the support plan accordingly. If the Update Service has been selected for Eligible Products at a Specified Location, Client agrees to provide MIBB with the necessary access to enable MIBB to perform updates simultaneously on several Eligible Products at one location, to reduce waiting times;
- f. for Update Services, provide MIBB with direct access to the related Eligible Products and make the preparations agreed to with the MIBB TRM, such as shutting down the related Eligible Products and issuing the necessary authorizations;
- g. comply with the accepted license terms for the Microcode;
- h. comply with the accepted license terms for software where applicable (e.g., storage products);
- i. pay communication charges related to GTMS that may be incurred at Client's Specified Locations, as applicable;
- j. obtain recommendations and updates for Microcode of non-IBM products not covered by GTMS directly from the respective manufacturers, under the manufacturer's terms; l. perform adequate backup and verification of all data stored on the Eligible Products prior to starting the implementation of any updates, and maintain a current complete backup of Client's system, in Client's environment, at all times. MIBB is not responsible for loss of, or damage to, data as a result of MIBB's performance of Services described within the scope of this SOW;
- m. be responsible for scheduling updates to minimize interruptions to system performance;
- n. provide MIBB access to a server with the required minimum configuration as defined by MIBB for the duration of this SOW. This server does not need to be dedicated to IBM Data Collection Tool;
- o. be responsible to provide the user ID and password during the installation phase and maintain the user ID and password configuration on the Data Collection Tool for the duration of this SOW;

- p. remove, per MIBB's instructions, the IBM Data Collection Tool (Microcode Data Collector or equivalent) when this SOW is terminated for any reason;
- q. identify the system on which the IBM Data Collection Tool will be installed;
- r. permit MIBB to use the IBM Tools as described in Section 3 to perform the Services; and
- s. for RCL, Client's additional responsibilities:
 - (1) provide remote access to the systems requiring code updates;
 - (2) remain responsible during the Code Update for any decisions regarding upgrades on Client's Eligible IBM Machines;
 - (3) provide the MIBB Representative with all information requested, this may include Client's system configuration and an outline of Client's network topology;
 - (4) that by ordering RCL, Client approves the use of programs enabling MIBB to query the Code levels/perform updates;
 - (5) to notify the MIBB Representative of changes to Clients Eligible IBM Machines, and of updates to the Code, drivers, or operating systems. Client will provide MIBB with the necessary access to enable MIBB to perform updates simultaneously on several of Client's Eligible IBM Machines at once if possible, to reduce waiting times;
 - (6) the system to be upgraded must be free of errors;
 - (7) any failed hardware components must be replaced prior to the upgrade; and
 - (8) Call Home and one of the following need to be configured: Assist on-site (AOS) or Remote Support Center or Secure Remote Access (SRA) (Remote support can be enabled indefinitely or on a per session basis).

3. IBM Tools

In addition to the IBM Tools described in the Attachment, MIBB will use the IBM Data Collection Tool: a specific IBM Tool that resides on Client's system to capture and periodically transmit to MIBB the inventory and configuration of Eligible Products and includes Microcode Data Collector (MDC). MIBB may change IBM Data Collection Tools at MIBB's discretion by providing Client 30 days' notice of such change.

4. Termination and Withdrawal

MIBB may withdraw GTMS upon three months' written notice. If MIBB withdraws a Service, Client will receive a credit for prepaid Services not delivered. If Client terminates this prepaid GTMS Service during the term, no credit will be issued. Client may not terminate Analysis Services separately if Client has selected Analysis Services with Update Services.

5. Service Level Codes (SLC)

Where described in the Order Form the abbreviations have the following meanings:
SLC Description

ST1	1 Analysis (Remote data collection) per Year
ST2	2 Analyses (Remote data collection) per Year
ST5	1 Analysis (Remote data collection) and On-Site Update per Year
ST6	2 Analyses (Remote data collection) per Year and On-Site Update per Year
STC	1 Analysis (Remote data collection) and Remote Code Load per Year
STD	2 Analyses (Remote data collection) per Year and Remote Code Load per Year

This Statement of Work, its applicable Transaction Documents, applicable Attachments, and the Agreement in effect between the parties are the complete agreement regarding Services and replace any prior oral or written communications between us. Accordingly, neither party is relying upon any representation that is not specified in the complete agreement including, without limitation, any representations concerning 1) levels of service, hours, or charges to provide any Service; 2) the experiences of other clients; or 3) results or savings Client may achieve. Client accepts the terms of this Statement of Work by 1) ordering, paying for, or using the Service referenced herein, or 2) signing it (or another document that incorporates it by reference) by hand or electronically where recognized by law, if signature is required by either party.