

IBM i helps deliver near-continuous availability with IBM Db2 Mirror for i

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Overview

In conjunction with the announcement of IBM^(R) i 7.4, IBM offers a new Licensed Program Product (LPP) for the IBM i Portfolio: IBM Db2^(R) Mirror for i. This new offering, available for IBM i 7.4 clients, enables near-continuous availability through an IBM i exclusive Db2 active-active two-system configuration.

Db2 Mirror for i is designed to address environments that require a continuous application availability recovery time objective (RTO) of zero and a recovery point objective (RPO) of zero. The foundational technology is based on integrated IBM i operating system function that enables two copies of the IBM i integrated Db2 database to synchronously replicate inserts, updates, and deletes across two systems in a tightly coupled active-active configuration at the database level. At the application level, applications can be deployed in an active-active configuration or in an active-passive configuration. Both options will enable a near-zero RTO.

Key requirements

- IBM i 7.4, or later.
- IBM i Option 48 Db2 Data Mirroring is required for Db2 Mirror for i and is automatically included with Db2 Mirror for i orders.

For additional hardware, software, storage, and other key requirements, see the [Planning considerations](#) topic in IBM Knowledge Center.

Planned availability date

June 21, 2019

Description

The Db2 Mirror offering is designed to provide continuous application availability through IBM i operating system technology that mirrors database updates to two nodes synchronously, using Remote Direct Memory Access (RDMA) over Converged Ethernet (RoCE) network. Applications can be deployed in an active-active manner whereby each application server has simultaneous access to the database on both systems in the two-node active-active complex. If one of the database servers goes down, the application servers continue performing I/O operations to the other

system in the mirrored pair. This configuration has the additional benefit of enabling workload balancing.

Applications can also be deployed in an active-passive manner whereby application servers will conduct write operations to one of the two systems in the two-system complex and, in the event that the primary goes away, the application groups will be switched to the secondary system. The active-active case will necessitate that the application servers be hosted separately from the database servers and be connected through a client/server construct such as JDBC. Note that IBM i JDBC drivers now contain alternate server fail-over support to automatically transition the JDBC request between systems when one connection is no longer available. For many IBM i application workloads, deployment is through the traditional 5250 emulation screen and contained in the same LPAR as the operating system and database. In this case, if the primary goes down, the database has been continuously replicated to the secondary system synchronously and is immediately available. The application will need to be restarted on the secondary system prior to the resumption of the workload processing.

When one of the systems in the Db2 Mirror configuration is not available, Db2 Mirror will track all update, change, and delete operations to the database table and all other mirror-eligible objects, and when the pair is reconnected, all changes are synchronized between the systems. This includes databases that reside either in an IASP or as part of the base system storage. To emphasize this point, Db2 Mirror is completely compatible with IASPs and, in fact, exploits IASPs for IFS support within the Db2 Mirror configuration. For non IFS objects, IASPs can be used but are not required. Additionally, Db2 Mirror supports applications using either traditional record-level access or SQL-based database access. Support for IFS and IFS journals is accomplished through deployment into an IASP, which can be configured as a switchable LUN or in a mirrored pair of IASPs through storage replication.

IBM i Option 48, Db2 Data Mirroring, is required for Db2 Mirror for i, so entitlement for Option 48 is automatically included with Db2 Mirror for i orders. Be sure that IBM i Option 48 is installed and a key is applied along with the Db2 Mirror for i Licensed Program Product.

Disaster Recovery can be achieved with various options, such as the PowerHA^(R) SystemMirror^(R) for i Enterprise Edition, full system replication, or logical replication.

For more information, see [Db2 Mirror](#) in IBM Knowledge Center.

Reference information

For more information, see:

- Software Announcement [ZP19-0255](#), dated April 23, 2019, (IBM i 7.4)
- Hardware Announcement [ZG19-0002](#), dated April 23, 2019, (IBM Power^(R) Systems enhancements)

Program number

Program number	VRM	Program name
5770-DBM	7.4	Db2 Mirror for i
5770-SS1	7.4	IBM i
Program number	Maintenance 1-year program number	Maintenance 3-year program number
5770-DBM	5660-DBM	5662-DBM
	5661-DBM	5663-DBM
		5664-DBM

Offering Information

Product information is available on the [IBM Offering Information](#) website.

Publications

No publications are shipped with these programs.

With the IBM Systems Information Center, users can use a single information center to access product documentation for IBM Systems hardware, operating systems, and server software. Through a consistent framework, users can efficiently find information and personalize their access to that information. For more information, review the [IBM Publications Center portal](#).

Services

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings for the efficient installation, implementation, or integration of this product.

Technical information

Specified operating environment

Software requirements

IBM i 7.4, or later.

Limitations

Additional information can be found on the [License Information documents](#) page on the IBM Software License Agreement website.

The IBM Support Community

The [IBM Support Community](#) is your gateway to technical support tools and resources that are designed to help you save time and simplify support. Support Community tools can help you find answers to questions, download fixes, troubleshoot, automate data collection, submit and track problems, and build skills.

You can also access the [Service requests and PMRs](#) tool for more support.

Planning information

Packaging

Not applicable

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Ordering information

Consult your IBM representative.

Db2 Mirror for i

Program number	Feature description	OTC feature number
5770-DBM	OTC Per Proc - Medium	UOMAC1
5770-DBM	OTC Per Proc - Sm to Med	XIR0C1
5770-DBM	OTC Per Proc - Small	U0L9C1
Program number	Feature description	Supply feature number
5770-DBM	Db2 Mirror for i	5847
5770-DBM	Db2 Mirror for i	5848
5770-DBM	Db2 Mirror for i	5849
Program number	Feature description	Process option feature number
5770-DBM	ePoE Registration - Small	6001
5770-DBM	Core Count	6345
5770-DBM	ePoE Registration - Medium	6101
5770-DBM	ePoE Registration - Small - Medium	6201
5770-DBM	7th Non-Processor ePoE Upg Reg	6601
5770-DBM	8th Non-Processor ePoE Upg Reg	6701
5770-DBM	9th Non-Processor ePoE Upg Reg	6801
5770-DBM	Development Demo System SW Registration	6485
5770-DBM	Electronic Delivery	3450
5770-DBM	Logical Partitioning	3441
5770-DBM	SW Key 1st MT Digit	4001
5770-DBM	SW Key 2nd MT Digit	4002
5770-DBM	SW Key 3rd MT Digit	4003
5770-DBM	SW Key 4th MT Digit	4004
5770-DBM	SW Key 1st CPU Digit	4005
5770-DBM	SW Key 2nd CPU Digit	4006
5770-DBM	SW Key 3rd CPU Digit	4007
5770-DBM	SW Key 4th CPU Digit	4008
5770-DBM	SW Key 5th CPU Digit	4009
5770-DBM	SW Key 6th CPU Digit	4010
5770-DBM	SW Key 7th CPU Digit	4011
5770-DBM	SW KEY 1ST MODEL DIGIT	4012
5770-DBM	SW KEY 2ND MODEL DIGIT	4013
5770-DBM	SW KEY 3RD MODEL DIGIT	4014

Db2 Data Mirroring Opt 48

Program number	Feature description	Process option feature number
5770-SS1	EPOE UPG REG P05 -Db2 Mirroring	6005
5770-SS1	EPOE UPG REG P10 -Db2 Mirroring	6010
5770-SS1	EPOE UPG REG P20 -Db2 Mirroring	6020
5770-SS1	EPOE UPG REG P30 -Db2 Mirroring	6030
5770-SS1	Core Count	6345

Db2 Data Mirroring Opt 48

Program number	Feature description	OTC feature number
5770-SS1	OTC Per Proc - Medium	U0MCC1
5770-SS1	OTC Per Proc - Sm to Med	XIR1C1
5770-SS1	OTC Per Proc - Small	U0MBC1

This software license includes Software Maintenance, previously referred to as Software Subscription and Technical Support.

Extending coverage for a total of three years from the date of acquisition may be elected. Order the program number, feature number, and quantity to extend coverage for your software licenses. If maintenance has expired, specify the after license feature number.

Maintenance program number description

Maintenance program number	Description
5660DBM	Db2 Mirror i 1 Y Reg/Ren
5661DBM	Db2 Mirror for i 1Y AL
5662DBM	Db2 Mirror for i 3Y Reg
5663DBM	Db2 Mirror i 3 Y Renewal
5664DBM	Db2 Mirror i 3 Y After Lic.

Db2 Mirror i 1 Y Reg/Ren

Program number	Feature description	OTC feature number
5660-DBM	Db2 Mirror i 1 Y Reg/Ren Med	B0YJCH
5660-DBM	Db2 Mirror i 1 Y Reg/Ren Med	U0YJC2
5660-DBM	Db2 Mirror i 1 Y Reg/Ren Sm	B0YGCH
5660-DBM	Db2 Mirror i 1 Y Reg/Ren Sm	U0YGC2
Program number	Feature description	Process option feature number
5660-DBM	Development Demo System SW Registration	6485

Db2 Mirror for i 1Y AL

Program number	Feature description	OTC feature number
5661-DBM	Db2 Mirror for i 1Y AL Med	U0SCC4
5661-DBM	Db2 Mirror for i 1Y AL Sm	U0SAC4
Program number	Feature description	Process option feature number
5661-DBM	Development Demo System SW Registration	6485

Db2 Mirror for i 3Y Reg

Program number	Feature description	OTC feature number
5662-DBM	Db2 Mirror for i 3Y Reg Med	U0WWC5
5662-DBM	Db2 Mirror for i 3Y Reg Sm	U0WUC5
Program number	Feature description	Process option feature number
5662-DBM	Development Demo System SW Registration	6485

Db2 Mirror i 3 Y Renewal

Program number	Feature description	OTC feature number
5663-DBM	Db2 Mirror i 3 Y Ren Med	U0REC6

Program number	Feature description	OTC feature number
5663-DBM	Db2 Mirror i 3 Y Ren Sm	U0RDC6
Program number	Feature description	Process option feature number
5663-DBM	Development Demo System SW Registration	6485

Db2 Mirror i 3 Y After Lic.

Program number	Feature description	OTC feature number
5664-DBM	Db2 Mirror i 3 Y After Lic.Med	U1ASC7
5664-DBM	Db2 Mirror i 3 Y After Lic Sm	U1APC7
Program number	Feature description	Process option feature number
5664-DBM	Development Demo System SW Registration	6485

Charge metric

The charge metric for this licensed product can be found in the following License Information document:

Program identifier	License Information document title	License Information document number
5770-DBM	IBM Db2 Mirror for i	L-LHIH-AAVQYB

Select your language of choice and scroll down to the Charge Metrics section. Follow-on releases, if any, may have updated terms. See the [License Information documents](#) website for more information.

Terms and conditions

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage^(R) Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

This software license includes Software Subscription and Support (also referred to as Software Maintenance).

Software Maintenance

The IBM Agreement for Acquisition of Software Maintenance (Z125-6011) applies for Subscription and Support (also referred to as Software Maintenance) and does not require client signatures.

Licenses under the IBM International Program License Agreement (IPLA) provide for support with ongoing access to releases and versions of the program. IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support can be extended by the purchase of a renewal option, if available. Two charges apply: a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as

well as access to updates, releases, and versions of the program as long as support is in effect.

License Information number

The following License Information document applies to the offering in this announcement:

Program identifier	License Information document title	License Information document number
5770-DBM	IBM Db2 Mirror for i	L-LHIH-AAVQYB

Follow-on releases, if any, may have updated terms. See the [License Information documents](#) website for more information.

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, see the [IBM Support Guide](#).

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

Program support

Subscription and Support includes telephone assistance, as well as access to updates, releases, and versions of the program as long as support is in effect. You will be notified of discontinuance of support with 12 months' notice.

Money-back guarantee

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

For clarification, note that for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Volume orders (IVO)

Yes. Contact your IBM representative.

Passport Advantage applies

No

Usage restrictions

Yes

See License Information document [L-LHIH-AAVQYB](#) for details. Follow-on releases, if any, may have updated terms. See the [License Information documents](#) website for any new or revised restrictions.

Software Subscription and Support applies

Yes. All distributed software licenses include Software Subscription and Support (also referred to as Software Maintenance) for a period of 12 months from the date of acquisition, providing a streamlined way to acquire IBM software and assure technical support coverage for all licenses. Extending coverage for a total of three years from date of acquisition may be elected.

While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance by telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. For additional details, go to the [IBM Support Guide](#).

Software Subscription and Support does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under this agreement.

IBM Operational Support Services - Support Line

Yes

Variable charges apply

No

Educational allowance available

Yes. When ordering through the program number process, a 15% education allowance applies to qualified education institution clients.

Education Software Allowance Program applies when ordering through the program number process.

ESAP available

Yes, to qualified clients.

Statement of good security practices

IT system security involves protecting systems and information through intrusion prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a regulatory compliant, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

Important: IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

IBM Electronic Services

Electronic Service Agent and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to organizations that have IBM Systems. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support, all at no additional cost to you.

Now integrated into the base operating system of IBM i, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type `smitty esa_main`, and select Configure Electronic Service Agent. In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, go to the [IBM Electronic Service Agent](#) website.

The IBM Electronic Support portal is a single internet entry point that replaces the multiple entry points traditionally used to access IBM internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for organizations that are Electronic Service Agent tool-enabled to track system inventory and find pertinent fixes.

Benefits

Increased uptime: The Electronic Service Agent tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the symptoms, diagnosing the error, and manually calling IBM Support to open a problem record. Its 24 x 7 monitoring and reporting mean human intervention is not required to report errors.

Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool is designed to securely transmit either through the internet (HTTPS or VPN) or modem to provide organizations a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into an organization's system.

For additional information, go to the [IBM Electronic Service Agent](#) website.

More accurate reporting: Because system information and error logs are automatically uploaded to the IBM Support Center in conjunction with the service request, you are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

Customized support: Using the IBMid entered during activation, you can view system and support information in the *My Systems and Premium Search* sections of the [IBM Electronic Support](#) page.

My Systems provides valuable reports of installed hardware and software using information collected from the systems by Electronic Service Agent. Reports are available for any system associated with your IBMid. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledgebase. Using Premium Search and the Electronic Service Agent information that has been collected from your system, you are able to see search results that apply specifically to your systems.

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or go to the [IBM Electronic Support](#) website.

Prices

For all local charges, contact your IBM representative.

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Announcement countries

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