

# IBM CICS Transaction Server for z/OS, V5.4 delivers functional enhancements using the Continuous Delivery model, and the CICS Transaction Server for z/OS, V5.5 open beta offering is updated

## Table of contents

<a href="#">1 Overview</a>	<a href="#">7 Technical information</a>
<a href="#">1 Key prerequisites</a>	<a href="#">8 Ordering information</a>
<a href="#">2 Planned availability date</a>	<a href="#">9 Terms and conditions</a>
<a href="#">2 Description</a>	<a href="#">11 Order now</a>
<a href="#">6 Program number</a>	

## Overview

IBM<sup>(R)</sup> CICS<sup>(R)</sup> Transaction Server for z/OS<sup>(R)</sup> (CICS TS), a powerful, mixed-language application server, can process hundreds of thousands of business transactions every second. A Continuous Delivery (CD) model further extends the capabilities of CICS TS V5.4 with innovative new functions and additional enhancements, such as:

- Support for Java™ Enterprise Edition (EE) based Eclipse MicroProfile 1.2
- Enhanced Java EE security using OAuth 2.0, JavaScript™ Object Notation (JSON) Web Token, and OpenID Connect
- Support for JSON mapping level 4.2 and JSON mapping level 4.3
- Support for multi-factor authentication for CICS Management Client Interface (CMCI) enhancements

In addition, the CICS TS V5.5 open beta offering is updated with new functionality, which includes:

- GraphQL API support to query workload management definitions
- Controlling the use of CICS API and SPI commands and keywords
- Enhanced management of IBM Db2<sup>(R)</sup> threads used by CICS TS tasks
- Web client use of 64-bit (above-the-bar) buffers

The CICS TS V5.5 open beta offering is available for clients who want to explore potential new CICS capability and assess the value to their business. It can be downloaded, at no charge, from the [IBM CICS open beta offering](#) website.

## Key prerequisites

### **CICS TS for z/OS, V5.4 (includes CICS TS Value Unit Edition V5.4 and CICS TS Developer Trial V5.4)**

- The minimum required hardware prerequisite is IBM System z10<sup>(R)</sup> or subsequent 64-bit z/Architecture<sup>(R)</sup> processors.
- The minimum required level of operating system is IBM z<sup>(R)</sup>/OS, V2.1 (5650-ZOS).
- The minimum required level of Java is:

- IBM 64-bit SDK for z/OS, Java Technology Edition, V7.0, at Service Refresh 10 Fix Pack 1, or later, or
- IBM 64-bit SDK for z/OS, Java Technology Edition, V7.1, at Service Refresh 4 Fix Pack 1, or later, or
- IBM 64-bit SDK for z/OS, Java Technology Edition, V8.0.

For more details, see the [CICS Transaction Server for z/OS 5.4 detailed system requirements](#) website.

### **CICS TS for z/OS, V5.5 open beta offering**

- The minimum required hardware prerequisite is the System z<sup>(R)</sup> 196 or subsequent 64-bit z/Architecture processors.
- The minimum required level of operating system is z/OS, V2.2 (5650-ZOS).
- The minimum required level of Java is IBM 64-bit SDK for z/OS, Java Technology Edition, V8.0.

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### **Planned availability date**

- April 3, 2018: The majority of CICS TS V5.4 CD enhancements
- April 30, 2018: Updates to the CICS TS V5.5 open beta offering
- June 30, 2018: The remainder of the CICS TS V5.4 CD enhancements

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### **Description**

#### **Enhancements to CICS TS V5.4 included in the CD model**

CICS TS for z/OS, V5.4 was generally available on June 16, 2017 and was updated in January 2018. With this latest update, CICS TS V5.4 delivers a number of new and enhanced capabilities by using the standard CICS TS service channel to implement a CD model. For details of related Software Announcements for CD models and general availability of products, see the [Reference information](#) section.

#### **Support for Java EE-based Eclipse MicroProfile 1.2**

Java EE provides the APIs and runtime environment for large-scale, multi-tiered, scalable, reliable, and secure network applications that include:

- Web
- Enterprise Java Beans (EJB)
- Java batch applications

Eclipse MicroProfile is built on top of existing Java EE APIs and provides APIs for resilient and secure microservices. Supported features include:

- REST web services
- JSON processing
- Fault tolerance
- JSON web tokens
- Health monitoring
- Application configuration

MicroProfile takes advantage of new language features released in Java Standard Edition (SE) 8.

Microservices are designed to be a web of interconnected parts that perform a single, specific function. Splitting out services allows:

- Development to be done in parallel by different development teams
- Multiple services of the same type to be run
- Scaling of the system can be done horizontally
- Resilience to be built into the system, so that failure in a single node does not need to disrupt the entire web.

### ***Enhanced Java EE security by using OAuth 2.0, JSON Web Token, and OpenID Connect***

OAuth 2.0 is an authorization framework that allows a user to grant limited access to their resources from one site to another site, without having to expose their credentials. OAuth 2.0 provides an industry-standard way to control resource access and sharing. Support for OAuth 2.0 in CICS Liberty is provided by the oauth-2.0 feature.

JSON Web Tokens are a compact and self-contained means for securely representing claims that are transferred between two parties, such as a Liberty resource server and an authentication proxy. Any trusted party in possession of a JSON Web Token can use that token to get access to the associated resources in Liberty. Support for JSON Web Tokens in CICS Liberty is provided by the jwt-1.0 feature.

OpenID Connect (OIDC) is an authentication protocol based on the OAuth 2.0 specification. It gives a user a centrally controlled login that can be used across multiple sites. The purpose of OIDC is to verify the end user's identity, fetch their profile information, and gain limited access to resources on behalf of the end user. OIDC uses simple JSON Web Tokens that are obtained by using flows that conform to the OAuth 2.0 specification. These tokens can be used instead of, or in addition to, the configured user registry. Support for OIDC in CICS Liberty is provided by the openidConnectClient-1.0 and openidConnectServer-1.0 features.

### ***Support for JSON Mapping Level 4.2***

JSON mapping level 4.2 is primarily for use with DFHJS2LS. This mapping level implements support for additional properties in JSON. It delivers the following new, three parameters to DFHJS2LS:

- ADDITIONAL-PROPERTIES-DEFAULT
- ADDITIONAL-PROPERTIES-MAX
- ADDITIONAL-PROPERTIES-SIZE

### ***Support for JSON Mapping Level 4.3***

JSON mapping level 4.3 implements support for multidimensional arrays in JSON.

### ***Support for multi-factor authentication for CMCI enhancements***

New configuration options are introduced in CICS TS V5.4 to simplify installation and implementation of the CMCI JVM server<sup>1</sup>. The CMCI JVM server runs in the CICSplex<sup>®</sup> SM Web User Interface (WUI) region and handles CMCI requests when multi-factor authentication (MFA) is required. These new options include allowing a named WebSphere<sup>®</sup> Liberty angel to be used for the CMCI JVM server. The CMCI will wait for the Liberty angel initialization, rather than failing CMCI initialization.

<sup>1</sup> The CMCI JVM server was introduced in the CICS TS V5.4 January 2018 CD update, in APAR [PI87691](#). For more information, see the [Reference information](#) section.

### ***VSAM dynamic buffer addition disabled for CICS LSR pools***

From z/OS V2.2, or later, VSAM provides a dynamic buffer addition capability that allows for the addition of extra buffers for a LSR pool if no buffer is available for a given VSAM request. For CICS, it is preferable to retry the request rather than allow uncontrolled expansion of an LSR pool, so dynamic buffer addition is not enabled for

CICS LSR pools. This change is applied to CICS TS V5.1 through CICS TS V5.4 with APAR [PI92486](#).

The following table provides details on the new capabilities that are available:

Capability	Availability method
Eclipse MicroProfile 1.2	Use CICS TS V5.4 APAR <a href="#">PI91554</a> and IBM 64-bit SDK for z/OS, Java Technology Edition, V8.0
OAuth 2.0, JSON Web Token, and OpenID Connect support	Use CICS TS V5.3 and CICS TS V5.4, with APAR <a href="#">PI91554</a>
JSON Mapping Level 4.2	Use CICS TS V5.4 APAR <a href="#">PI86039</a>
JSON Mapping Level 4.3	Use CICS TS V5.4 APAR <a href="#">PI88519</a>
Multi-factor authentication for CMCI enhancements	Use CICS TS V5.4 APAR <a href="#">PI92676</a>
VSAM dynamic buffer addition disabled for CICS LSR pools	Use CICS TS V5.1, CICS TS V5.2, CICS TSV5.3, and CICS TS V5.4, with APAR <a href="#">PI92486</a>

### The CICS TS V5.5 open beta offering

The CICS TS V5.5 open beta offering is updated to allow clients to assess and provide feedback on potential future CICS TS capabilities. In this latest release of the open beta offering, the following enhanced features are provided:

- GraphQL API to query workload management definitions
 

A new HTTP API for CICS TS enables the querying of a CICS system by using the GraphQL paradigm. This new API enables execution of expressive queries with inherent relationships and reduced latency. For this update to the open beta offering, the GraphQL API for CICS is extended with the ability to show the interrelationships between workload management definitions as simple, single requests.
- Controlling the use of CICS API and SPI commands and keywords
 

A new CICS API rules member in SYSPARM, named DFHAPIR, can be defined to impose restrictions on the use of specific CICS API and SPI commands and keywords. The CICS translator is enhanced to process the restricted commands member. During translation, the CICS translator checks a source file against the specified restricted commands or keywords, and will generate warning or error messages in case of violation. The check is performed only when a program is translated, and does not affect translated programs. This capability can be used to prevent the use of specific API or SPI commands and keywords in application programs. It is not applicable to perform commands:

  - EXEC CICS GDS
  - EXEC DLI
  - EXEC CICS FEPI
  - EXEC CPSM
- Support for multi-factor authentication for CMCI enhancements
 

See the description above, which is related to new function that is provided for CICS TS V5.4 using APAR [PI92676](#).
- SPI/XPI to inquire on feature toggles
 

The previously introduced XPI DFHPAIQX INQUIRE\_TOGGLE is renamed to INQUIRE FEATUREKEY. In addition, a CICS SPI INQUIRE FEATUREKEY command is provided, including a browse capability which is utilized by CICSplex System Manager (SM) and CMCI, to allow feature toggles to be viewed using CICS Explorer<sup>(R)</sup>.
- Group on VERIFY to improve use of passtickets
 

With the new parameter GROUPID in VERIFY PASSWORD and VERIFY PHRASE, CICS TS can perform password or password phrase verification against the group

ID in addition to a user ID and password or password phrase that is recorded in the external security manager.

- New parameters for CICS SPI and API commands for inquiry on IP addresses of TN3270 clients

New parameters TNADDR, TNIPFAMILY, and TNPORT are added to SPI commands INQUIRE TERMINAL and INQUIRE NETNAME, and to API command ASSIGN to support inquiry on IP addresses of TN3270 clients. This enhancement makes it easier to retrieve the IP address of the TN3270 client that initiated a task.

- Security checks on submitting jobs by using the CICS spool

A new surrogate security check restricts the ability of users to submit jobs using the EXEC CICS SPOOLWRITE command. The new command is available using feature toggle `com.ibm.cics.spool.surrogate.check`.

- Enhanced management of IBM Db2 threads that are used by CICS TS tasks

The management of IBM Db2 threads that are used by CICS tasks and subject to PURGE or FORCEPURGE requests, is enhanced. The SET TASK command is enhanced, such that CICS processing of task PURGE or FORCEPURGE requests will attempt to cancel active Db2 threads, which are used by CICS tasks, that are purged or forced to purge. If CICS detects that the task is purged or forced to purge with a thread active in Db2, then it issues an instrumentation facility interface (IFI) Db2 cancel thread command to cancel the request in Db2 before it initiates the purging of the CICS task. This enhancement ensures that the purge does not cause problems for Db2 and that the Db2 updates are safely backed out. This capability requires APAR [PI92893](#) on Db2 Version 11, or later.

- Web client use of 64-bit (above-the-bar) buffers

The Web domain now uses internal 64-bit (above-the-bar) buffer storage when it sends and receives HTTP outbound messages. This change relieves constraint on 31-bit virtual storage and enables more 31-bit application use in a CICS region.

### ***Availability of the CICS TS V5.5 open beta offering***

The CICS TS V5.5 open beta offering is available for clients who want to explore potential new CICS capability and assess the value to their business. It can be downloaded, at no charge, from the [IBM CICS open beta offering](#) website.

To register interest in future, managed CICS TS beta programs, clients can register by email, at [CICS Early Programs coordinator](#).

### ***IBM software beta programs overview***

IBM software beta programs allow clients to sign up for and acquire early releases of a product for the purposes of testing, before it is made commercially available. Open beta programs do not usually require clients to register before taking part in the program. Typically, product offerings that are provided by a beta program:

- Are free of charge.
- Are not warranted.
- Have no support of any kind.
- May not be used for productive purposes.
- Contain a disabling device that will prevent it from being used after the test period ends.

Details of the terms and conditions of the software beta program are found in the supplied license files for the offering.

Participants in the beta program gain insight into IBM strategy and direction. They may also afford earlier benefit and payback from new function, and may gain competitive edge and the opportunity for public recognition as a technology leader. Participants are encouraged to provide feedback and articulate their own

requirements to IBM, with the potential to help influence and shape future IBM products.

## Section 508 of the US Rehabilitation Act

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CICS TS V5.4 and the CICS TS V5.5 open beta offering are capable, when used in accordance with associated IBM documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it. A US Section 508 Voluntary [Product Accessibility Template \(VPAT\)](#) can be requested.

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## Hardware and software support services

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### SmoothStart/installation services

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[IBM Services](#) has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our [WebSphere<sup>®</sup> lab-based services](#) and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, IBM Services extends our reach through [IBM Business Partners](#) to provide an unmatched portfolio of capabilities. Together, IBM provides the global reach, intellectual capital, industry insight, and technology leadership to support any critical-business need. Further information about [CICS services](#) is also available.

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## Reference information

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### IBM Software Announcements

For information on the January 2018 update of CICS TS V5.4, and the introduction of the CICS TS V5.5 open beta offering, see Software Announcement [218-003](#), dated January 9, 2018.

For information on the June 2017 general availability of CICS TS V5.4, CICS TS Developer Trial V5.4, and CICS TS Value Unit Edition (VUE) V5.4, see Software Announcement [217-113](#), dated May 16, 2017.

For information on IBM z/OS Provisioning Toolkit V1.1, see Software Announcement [218-025](#), dated January 9, 2018.

### CICS web pages

For up-to-date information on CICS family products, see the [CICS](#) home page.

The [CICS support](#) web page can be used to search for terms, phrases, error codes, and APAR numbers.

### CICS SupportPacs

[CICS SupportPacs](#) are available, at no charge, and are designed to complement and extend the capabilities of CICS TS.

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## Program number

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Program number	V.R.M	Program name
5655-Y04	5.4.0	CICS Transaction Server for z/OS
5722-DFJ	5.4.0	CICS Transaction Server for z/OS Value Unit Edition
5722-DFK	1.1.0	CICS Transaction Server for z/OS Value Unit Edition S&S

Program number	V.R.M	Program name
5655-Y30	5.4.0	CICS Transaction Server for z/OS Developer Trial
5655-Y15	1.1.0	CICS Transaction Server for z/OS Developer Trial S&S
5655-BTA	5.5.0	CICS Transaction Server for z/OS open beta

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## Business Partner information

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If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to [BP Attachment for Announcement Letter 218-121](#). A PartnerWorld ID and password are required (use IBMid).

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## Technical information

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### Specified operating environment

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#### Hardware requirements

CICS TS V5.4 runs on any machine that supports the required z/OS operating system. For example, the minimum required hardware prerequisite for CICS TS for z/OS, V5.4 is IBM System z10 or subsequent 64-bit z/Architecture processors.

Further details of supported hardware are available in the general availability Software Announcement for CICS TS V5.4, in the [Reference information](#) section.

#### Software requirements

- CICS TS for z/OS, V5.4 (includes CICS TS Value Unit Edition V5.4 and CICS TS Developer Trial V5.4)
  - Operating environment. The minimum required level of operating system is z/OS V2.1 (5650-ZOS).
  - Java Runtime Environment. The minimum required level of Java is:
    - IBM 64-bit SDK for z/OS, Java Technology Edition, V7.0, at Service Refresh 10 Fix Pack 1, or later, or
    - IBM 64-bit SDK for z/OS, Java Technology Edition, V7.1, at Service Refresh 4 Fix Pack 1, or later, or
    - IBM 64-bit SDK for z/OS, Java Technology Edition, V8.0.

The IBM 64-bit SDK for z/OS, Java Technology Edition<sup>2</sup> is required if using:

- Java application programs
- SAML support
- JSON web services
- The CICS Web Services Assistant
- The CICS XML Assistant

<sup>2</sup> [IBM SDK for z/OS, Java Technology Edition](#) is available, without charge, on tape, or by download.

Detailed system requirements are available at the [CICS Transaction Server for z/OS 5.4 detailed system requirements](#) website.

- CICS TS for z/OS, V5.5 open beta offering
  - Operating environment. The minimum required level of operating system is z/OS V2.2 (5650-ZOS).

- Java Runtime Environment. The minimum required level of Java is IBM 64-bit SDK for z/OS, Java Technology Edition, V8.0.
- CICS Explorer<sup>(R)</sup>
  - CICS Explorer V5.4 requires CICS TS V5.4 to make use of the latest functionality provided. Details of other [system requirements](#) for both the CICS Explorer and CICS Explorer SDK are available online.
  - [Details relating to service and support](#) for CICS Explorer are also available online.

For additional information on software requirements, see the relevant *Program Directory*. For online information, click on the "Detailed system requirements for CICS TS for z/OS, V5.4" topic from document, [Detailed System Requirements for CICS Transaction Server](#).

## **Compatibility**

### **Product documentation**

Details are provided in the [Publications](#) section.

### **Application programming summary**

The high-level programming languages and compilers that are in service on z/OS and have CICS translator support are detailed in the "High-level language support" topic in the CICS TS V5.4 product documentation.

### **Performance considerations**

Performance information is available in the online product documentation for CICS TS V5.4 in [IBM Knowledge Center](#).

### **User group requirements**

Requirements for CICS TS can be created, viewed, and voted for in the [IBM Request For Enhancement \(RFE\)](#) community.

## **Planning information**

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### **Packaging**

For details of packaging, physical delivery, and electronic delivery, see the CICS TS V5.4 (general availability) Software Announcement [217-113](#), dated May 16, 2017.

### **Security, auditability, and control**

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CICS TS V5.4 and the CICS TS V5.5 open beta offering use the security and auditability features of the operating system under which they are running.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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## **Ordering information**

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### **Unlicensed documentation**

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#### **CICS TS V5.4 product documentation**

Product documentation for CICS TS V5.4 is refreshed regularly to reflect feedback from users and includes changes that result from IBM Service and continuous

delivery releases. Detailed information is provided in IBM Knowledge Center, in section [What documentation is available?](#)

For CICS TS V5.4, online documentation is available in [IBM Knowledge Center](#).

PDF format documentation is also provided for download in [IBM Knowledge Center](#).

Further information on product documentation is available in the CICS TS V5.4 general availability Software Announcement, see the [Reference information](#) section.

### **CICS TS V5.5 open beta offering product documentation**

Effective April 30, 2018, online documentation will be available for the CICS TS V5.5 open beta offering from [IBM Knowledge Center](#).

Effective April 30, 2018, PDF format documentation is also provided for download and will be available from [IBM Knowledge Center](#).

Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

### **Customized Offerings**

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Product deliverables are shipped only through CBPDO and ServerPac. These customized offerings are offered for internet delivery from Shopz. Internet delivery reduces software delivery time and allows you to install software without the need to handle tapes. For more details on internet delivery, go to the Help section on the [Shopz](#) website.

You choose the delivery method when you order the software. IBM recommends internet delivery. In addition to internet and DVD, the supported tape delivery options include:

- 3590
- 3592

Most products can be ordered in ServerPac the month following their availability in CBPDO. z/OS can be ordered through CBPDO and ServerPac at general availability. Many products will also be orderable in a Product ServerPac without also having to order the z/OS operating system or subsystem.

Shopz and CFSW will determine the eligibility based on product requisite checking. For more details on the product ServerPac, go to the Help section on the [Shopz](#) website.

For additional information on the Product ServerPac option, see Software Announcement [212-272](#), dated July 31, 2012.

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after general availability.

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## **Terms and conditions**

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The terms are unaffected by this announcement.

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## **Statement of good security practices**

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IT system security involves protecting systems and information through 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 lawful, 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.

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## IBM Electronic Services

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Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to IBM Systems customers. 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 AIX® V5.3, AIX V6.1, and AIX V7.1, 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 Support](#) 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 Electronic Service Agent tool-enabled customers to track system inventory and find pertinent fixes.

### Benefits

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**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 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 customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer'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.

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## Order now

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Fax: 800-2IBM-FAX (242-6329)

For IBM representative: [askibm@ca.ibm.com](mailto:askibm@ca.ibm.com)

For IBM Business Partner: [pwcs@us.ibm.com](mailto:pwcs@us.ibm.com)

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The IBM Digital Sales Center, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

**Note:** Shipments will begin after the planned availability date.

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[IBM United States](#)