Tivoli Manager for OS/390 Monitors and Controls
Your Systems Management Activities

Overview
Tivoli Manager for OS/390® is a systems management application that uses object-oriented technology to integrate many system management disciplines into a cohesive and extensible object model. With Tivoli Manager for OS/390, you can actively monitor and control the systems management events across a multi-datacenter, multi-platform enterprise from an NT Server through a Windows NT® or 95 workstation. It can also accommodate a diversity of third-party systems management tools to help automate, schedule, and monitor specific technical platforms.

Tivoli Manager for OS/390 collects and correlates information within the OS/390 environments from a variety of sources including consoles, performance monitors, scheduling systems, event logs, SNMP traps, and problem/change systems. This information informs as to whether jobs are running as scheduled, if the current state of a managed object has changed, or if performance counter thresholds are being exceeded.

Tivoli Manager for OS/390 includes a TME Plus module that allows Tivoli Enterprise Console (TEC) events to be displayed on the Tivoli Manager console or TEC console. All of this information is collected, stored, and presented in a clear, concise manner on the Microsoft™ Windows NT and 95-based Tivoli Manager for OS/390 workstation.

Key Prerequisites
- OS/390 Version 1 Release 3 (5645-001) or OS/390 Version 2 Release 4 (5647-A01) or higher
- Windows NT

For a detailed description of the hardware and software prerequisites, refer to the Technical Information section.

Planned Availability Date
July 30, 1999

At a Glance
- Provides the ability to construct Line of Business Views that reflect the current applications and business systems within the enterprise, which may contain a complex mixture of legacy system resources
- Consolidates information scattered throughout an OS/390 enterprise
- Helps leverage information for the competitive benefit of the company
- Integrates change and configuration management, and provides interfaces to other popular problem, change, and configuration management products
- Enables real-time monitoring

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Tivoli Manager for OS/390 is a suite of applications residing in a three-tiered client/server environment that has server components on the OS/390 and Windows NT Server environments. The program is comprised of the following components:

<table>
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<tr>
<th>Component Description</th>
<th>Component Function</th>
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</thead>
<tbody>
<tr>
<td>Source 390 Object Monitor</td>
<td>Collects, processes, and transfers host-based events to the Windows™ NT server component.</td>
</tr>
<tr>
<td>Batch Object Monitor</td>
<td>Provides ability to actively monitor OS/390 job streams.</td>
</tr>
<tr>
<td>DB2® Object Monitor</td>
<td>Automatically discovers and monitors DB2 subsystems and databases.</td>
</tr>
<tr>
<td>CICS® Object Monitor</td>
<td>Automatically discovers CICS regions, associated transactions, and data files. Provides monitoring using console messages, Write To Operator (WTO) messages, transient data queues, and events from other CICS performance monitors.</td>
</tr>
<tr>
<td>IMS™ Object Monitor</td>
<td>Automatically discovers IMS databases and provides monitoring using console messages.</td>
</tr>
<tr>
<td>Storage Object Monitor</td>
<td>Discovers storage hardware and software resources and stores them as objects. These objects are depicted graphically as icons in logical views which are proactively monitored.</td>
</tr>
<tr>
<td>Windows NT Client/Server: Application Management Suite</td>
<td>Provides an object oriented approach to the storage, representation, and management of S/390® resources.</td>
</tr>
<tr>
<td>Client</td>
<td>Provides an intuitive Graphical User Interface (GUI), and customized views of management data.</td>
</tr>
</tbody>
</table>

Because server components exist within these two environments, Tivoli Manager for OS/390 uses both SNA and TCP/IP as transport mechanisms for data. The Tivoli Manager for OS/390 Client Workstations support Windows NT Server, NT Workstation, and Windows 95 software. A browser-compliant Availability component allows for viewing and analyzing historical information from any of the data sources included in the object model.

Tivoli Manager for OS/390 Workstation is a graphically based application, which depicts enterprises systems, subsystems, and applications, and displays them in two ways: on a hierarchical TreeView or a HyperView. HyperView represents objects and their relationships in a hyperbolic view which shifts focus as different objects are brought to the center of the screen. HyperView is available in both Java™- and ActiveX-compliant versions. TreeView represents objects in a more conventional hierarchical fashion as an indented tree. The object tree expands and contracts to reveal objects that are lower in the hierarchy. Views can be tiled both horizontally and vertically to monitor different sets of resources and applications on the same screen. Both HyperView and TreeView can contain Line of Business Views, which allow for managing objects for a critical business application or area of responsibility. The user is notified of alerts from the various collection agents within a corporate enterprise. These alerts are displayed as graphic overlays on the objects, indicating when the availability of a resource, subsystem, or application is in jeopardy. The user can take responsibility or ownership for problems as they appear within Tivoli Manager for OS/390. Ownership on an object implies that a user is working to solve the problem or problems that threaten availability. Ownership also allows the user to discern if a problem has just occurred or if someone is addressing it.

### Source 390 Object Monitor

Source 390 Object Monitor is the suite of applications that allows collection, processing, and transferring of host-based events to the Management Server. Components exist on both the OS/390 and the Windows NT environments. Data is captured from a variety of sources, including the OS/390 system console, subsystem performance monitors, and subsystem applications and resources themselves. Upon the capture of an event, a message is formatted, packaged, and sent to the Management Server by means of LU 6.2 services. Components that exist on the Windows NT Server work with Microsoft’s SNA Server to ensure that communications are maintained from the host environments being monitored, to the Tivoli Manager for OS/390 Management Server. One component queues downloaded data, while a second ensures the downloaded data is correctly inserted into the object repository.

### Tivoli Manager for OS/390 Management Server

The Management Server acts as the central focal point and repository for the Workstation. It controls client access to this data and ensures data concurrency among all clients. The Management Server is a set of components that are implemented as services within the Microsoft Windows NT Server environment. These components can be distributed across multiple Windows NT Servers complying with the Network Operating System philosophy of Windows NT. All communication between services and the user requests from the Workstation are performed by the Distributed Computing Environments Remote Procedure Calls (DCE RPCs) over a TCP/IP, NetBEUI, or IPX/SPX network. The data repository currently uses Microsoft’s SQL Server relational database. The Tivoli Manager for OS/390 repository contains all current and historical data and includes facilities to replicate that data to various locations within the enterprise.

### Objects and the Enterprise Outliner

Applications, systems, subsystems, and technical resources are mapped to objects within Tivoli Manager for OS/390. The process of defining objects to Tivoli Manager for OS/390 is called “Registration.” Objects that have been defined to Tivoli Manager for OS/390 are referred to as “registered” objects. They have an object name, an object type, and descriptive information, and are located in the repository. Objects also contain links to other data, such as schedules, filters, message streams, problem/change records, exceptions, and other specific object type information.
The Enterprise Outliner depicts objects on the workstation graphically as icons that reside in hierarchical tree views. Detailed object attribute information can be accessed quickly by double-clicking the icon that represents the object. Outliner contains all the registered objects within the enterprise. It is a representation of the physical model of the enterprise, and is the base object collection upon which all other views are created.

Objects can be Autodiscovered by using the built-in facility. Using this facility, the host or domain can be specified and selectively registered for active monitoring.

**An Overview of Object Details**

All objects within the environment have a Detail Dialog box where data pertaining to an object can be viewed and updated. The object’s Detail Dialog box is a collection of tabbed pages that contains information specifically about that object such as the name, textual description and alert filtering criteria, and threshold controls. The Detail Dialog box can be used to:

- View various attributes of an object, such as:
  - Name
  - Description
  - Current and desired states
- Look into the cause of an alert by examining currently posted exceptions and console messages
- View and set thresholds for propagation and filtering
- Prioritize incoming exceptions by type and value
- View and set scheduling information

The Attributes tab is the first page within the object’s Detail Dialog box. It contains the object’s name, current state, and desired state, as well as any other attributes that are particular to that object type. It also contains a Description text box that provides information about the object beyond its name and type.

**Line of Business Views**

Objects that interest a user or group of users can be assembled and monitored as a collection called a “Line of Business View.” Line of Business Views (also known as LOB Views) enable you to view resources in flexible arrangements that may be completely unrelated to the physical hierarchy of the objects. Line of Business Views use TreeView or HyperView to display objects and include icons for each registered object that is contained within them. Multiple windows, each containing different hierarchical LOB Views, can be opened, enabling different objects and their various relationships to be monitored on one physical workstation. The LOB Views may be based on an actual Line of Business as well as the following:

- An application or set of applications
- A department
- A vertical area of responsibility
- A geographical region

LOB Views are the basis for building all the screens within the Operations Command Center. Other examples of Line of Business Views include:

- Critical Application View — Provides information that is specific to a mission-critical application (for example, insurance claims processing, manufacturing control, SAP, and point-of-sale)
- Executive View — Presents a summarized view of current operational status and historical performance
- Line of Business — Relates all critical applications for a division of business, such as property and casualty, retail operations, and domestic manufacturing
- Help Desk View — Maps the internal Level 1,2,3 support structure directly into a structured view for monitoring and reporting on internal service performance

The concept of using Line of Business Views to monitor critical information is a powerful and important feature of Tivoli Manager for OS/390. It gives users with different interests, responsibilities, and skill levels their own customized views of the objects important to them.

Distributed systems can be monitored for availability and performance problems using the same Tivoli Manager for OS/390 workstation and hierarchical views that are used for legacy systems.

**Monitoring for Availability**

Tivoli Manager for OS/390 monitors objects for state changes and performance characteristics that reflect availability. Actions on an object, such as an alert notification and the propagation of the alert up and down a view, result from events. Events may be exceptions associated with an object or a state change to an object.

Exceptions occur when counters that measure performance thresholds are exceeded. An example of an exception could be unacceptable response time associated with a CICS transaction.

Another example of an event could be a console message that a batch job has terminated abnormally. This would cause a state change to occur and would result in an event.

As events occur within the monitored environment, they are recorded and displayed by “tagging” an alert icon to the offending object’s icon. In the HyperView mode, the object itself and the paths leading to it turn red or yellow. The notification of alerts and event management are the primary tasks of Tivoli Manager for OS/390. By observing the TreeView or HyperView, the user can discern whether or not the system, subsystem, or resource is available and performing correctly.

**Propagation**

Propagation leverages the object-oriented implementation inherent within the environment and continuously propagates events throughout the object hierarchy. Propagation escalates alerts up the object hierarchy based on the severity of events, their volume, and the rate at which they occur. Exceptions, console messages, and other events are assigned priorities for each object. When an object receives an event, the event’s priority is examined and compared against tolerance rates set for that object. If a threshold is exceeded, an alert occurs on the object and the object sends an event to its parent object on the hierarchy. This, in turn, could cause another alert to occur, and another event to be sent further up the hierarchy.

In addition to controls that adjust rates for incoming performance exceptions, each object on the hierarchy includes controls for events arriving from child objects below it in the Enterprise Outliner. This provides customized control for the alert escalation process. The availability of an object’s children most likely will affect the availability of an object itself. Propagation is the technical component in the physical to logical object model. As events are propagated to the physical parents...
of all objects, they are also propagated to any Line of Business Views containing those objects.

Many features are included that help reduce initial implementation time and the cost of ongoing maintenance and enhancement of the Tivoli Manager for OS/390 application suite. These facilities comprise a representative checklist of capabilities that must be in place for any organization contemplating an event-driven centralized command center. These features also help extend the breadth and scope of the benefits your company will realize from centralized event management.

**SQL Logging and Viewing**

All events for registered objects are written to both a real-time and a historical SQL database. This database has an open format, which allows you to develop customized analysis routines such as historical event correlation within a specified domain. This open repository helps protect users from the unforeseen migration and upgrade costs associated with proprietary repository formats.

**Event Mapping and Correlation**

Progressive information technology organizations have undertaken many initiatives over the past few years to document and continuously improve best practices for systems management. The historical event repository and the browser-accessible Reporting System provide a powerful set of tools for the recording and playback of events over a specified time period for the purpose of problem recreation and closed-loop improvements. All information known to Tivoli Manager for OS/390, including the monitoring of exceptions, console messages, schedules, and who took ownership (and when), are brought together in support of reviewing both system failures and process deviations.

**Filtering**

Filtering is a powerful feature that enables the user to build Line of Business Views by providing ad-hoc selection criteria. This allows Command Center, Help Desk, or Support staff to quickly create custom views that closely monitor a collection of objects showing recent trouble conditions. Filtering also allows representations of the same object contained in different Line of Business Views to filter events differently, allowing for alerts only on events that pertain to the view.

**Intelligent Lights and Ownership**

A fundamental principle of an effective centralized command center is to generate meaningful alerts. The lights that indicate problems of greater or lesser severity must have an underlying intelligence that reflects the context in which they are displayed. Tivoli Manager for OS/390 introduces two concepts in managing this problem: correlated priorities and alert ownership.

- **Correlated priorities** enable the user to define priority values by setting thresholds for events and exceptions. A "critical" priority would be the most important, while a priority of "ignore" would be the least.

- **Taking ownership** for an alert changes the tagged object icon from alert to ownership status. Taking ownership also acts as a contract of problem acceptance. The user name is automatically recorded in a note, which allows action narrative information to be recorded, viewed, and played back for later best practice reviews. Since all clients are nearly instantly updated when ownership is taken, other members of the Command Center team as well as user departments with special LOB Views can see and understand that someone is responding to an alert.

**Object Discovery**

To help minimize the effort associated with registering the technical objects in the enterprise to Tivoli Manager for OS/390, a Discovery facility allows for two options: Autodiscovery and Rediscovery.

- An Autodiscovery process "listens" at a given host or node for resources such as subsystems, equipment, or applications that are unknown to Tivoli Manager for OS/390. All resources matching an expression set are returned in a list to an administrator, who can then determine which objects should be registered as objects.

- A Rediscovery process "listens" for objects already known to Tivoli Manager for OS/390, which may have been moved from one location to another. For example, batch jobs often move from one machine to another based on available resources. Rediscovery automatically adjusts the position of these objects in the Enterprise Outliner.

**Executive Status Board**

The Executive Status Board depicts an integrated functional view of operational performance. It displays both current and historical data in support of enterprise-wide decision making and assures that IT executives always have the most current view of status and performance.

**Central or Decentralized Administration**

Most organizations today are pursuing centralized command and control in response to cost initiatives. The program’s architecture allows you exercise control in a fashion that best reflects your current organization. Since the Tivoli Manager for OS/390 architectural components are modular and scalable, your implementation can reflect a decentralized as well as a centralized control structure.

**File Availability Monitoring**

Files are a supported object type within Tivoli Manager for OS/390 and are a critical resource for CICS regions. File availability determines whether a CICS region has the necessary data to continue its processing. Tivoli Manager for OS/390 provides this functionality for all CICS regions. Tivoli Manager for OS/390 checks file availability for each CICS region by verifying that the region is active and in its desired state, and then performs status checks on all files within the region.

**Reporting System**

Tivoli Manager for OS/390 now includes a complete reporting system for generating availability reports from the object history repository. Customers are using this new facility to replace hard-to-maintain, antiquated reporting systems that have typically been built a piece at a time using different tools. The Software Reporting System allows the user to select reports, specify custom filtering and selection criteria, and view reports online through a Web browser.
**Batch Process Monitoring**

Sophisticated batch monitoring tools enable administrators to predict whether batch schedules or processes will finish on time. The predictive batch analysis provided also allows IS executives to quickly assess the impact of delays, abends, and other problems that plague batch jobs in their critical business applications. Real-time as well as historical data is collected, managed, and selectively displayed on one graphical focal point, which enables your technical staff to view all critical information on a single desktop. Real-time updates enable the same desktop to function as a command center console, providing real-time status of batch schedules to your entire operations staff.

**Problem, Change, and Configuration Management**

Tivoli Manager for OS/390 integrates event, problem, change, and configuration management through a unique object database model. Datacenter operations management can now be performed with a consistent and simplified view of how these components affect any object in the enterprise. The object model allows you to get push-button answers to such sophisticated questions as what the potential business impact will be of a pending change.

**Year 2000**

This product is Year 2000 ready. When used in accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the twentieth and twenty-first centuries, provided that all products (for example, hardware, software, and firmware) used with the product properly exchange accurate date data with it.

**Euro Currency**

This program is not impacted by euro currency.

<table>
<thead>
<tr>
<th><strong>Product Positioning</strong></th>
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<tbody>
<tr>
<td>Tivoli Manager for OS/390 provides an enterprise system management solution for monitoring and controlling system management events across a multi-datacenter and multi-platform enterprise. Tivoli Manager for OS/390 is compatible and integrates with other Tivoli products to provide the ability to view OS/390 systems management events, and assist the user in managing the OS/390 system from any Windows NT in the enterprise. Tivoli Manager for OS/390 is a system management application that integrates all S/390 management disciplines into a cohesive and extensible object model and provides a single console for managing and viewing all OS/390 resources. The product has a NetView® 390 interface that is capable of receiving NetView events and messages on managed objects. It should be noted that Tivoli Manager for OS/390 is an S/390 product. End to End Management is done by Tivoli Global Enterprise Manager.</td>
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<thead>
<tr>
<th><strong>Hardware and Software Support Services</strong></th>
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<tbody>
<tr>
<td><strong>SmoothStart™/Installation Services</strong></td>
</tr>
<tr>
<td>IBM SmoothStart or Installation Services will not be provided for Tivoli Manager for OS/390.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Trademarks</strong></th>
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</thead>
<tbody>
<tr>
<td>IMS and SmoothStart are trademarks of International Business Machines Corporation in the United States or other countries or both.</td>
</tr>
<tr>
<td>OS/390, DB2, CICS, S/390, and NetView are registered trademarks of International Business Machines Corporation in the United States or other countries or both.</td>
</tr>
<tr>
<td>Microsoft and Windows are trademarks of Microsoft Corporation.</td>
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<tr>
<td>Windows NT is a registered trademark of Microsoft Corporation.</td>
</tr>
<tr>
<td>Java is a trademark of Sun Microsystems, Inc.</td>
</tr>
<tr>
<td>Other company, product, and service names may be trademarks or service marks of others.</td>
</tr>
</tbody>
</table>
Education Support

Training is offered through Tivoli Systems and IBM Learning Services.

For current information on Tivoli Systems education, call 800-2-tivoli (284-8654) (512-794-9070 outside the U.S.), send e-mail to training@tivoli.com, or visit the Tivoli Systems home page on the Internet (select "Product" for training information) at:

http://www.tivoli.com

For current information on IBM Learning Services courses in the U.S., contact 800-IBM-TEACH (426-8322). Outside the U.S., contact your local IBM Learning Services contact. Worldwide information is also available on the IBM Learning Services home page on the Internet at:

http://www.training.ibm.com

Technical Information

Specified Operating Environment

Hardware Requirements

Tivoli Manager for OS/390® Object Monitors

Tivoli Manager for OS/390 object monitors will run on any IBM processor (or equivalent) that supports the required software.

Tivoli Manager for OS/390 Server

- Pentium® II 450 XEON CPUs
- 256 MB to 1 GB RAM
- 4 GB RAID1 System Drive
- 9 GB to 45 GB RAID Data Drive
- DLT Backup

Server requirements are directly dependent upon system configuration and distribution of function.

Tivoli Manager for OS/390 Client (Recommended Configuration)

- Pentium II 450 processor
- 256 MB RAM
- 50 MB of free disk space

Software Requirements

Tivoli Manager for OS/390 Object Monitors

- OS/390 Version 1 Release 3 (5645-001) or OS/390 Version 2 Release 4 (5647-A01) or higher

Tivoli Manager for OS/390 extensively uses the services of the following OS/390 elements:

- OS/390 UNIX® System Services or OS/390 OpenEdition®
- OS/390 Language Environment for OS/390 and VM
- TCP/IP Services (OS/390 Version 2 Release 4 or earlier) or eNetwork™ Communication Server (OS/390 Version 2 Release 5 or later)
- CICS® 2.1 and higher

Tivoli Manager for OS/390 Server

- Windows NT® Server 4.0, Service Pack 3 and above
- Mortice Kern Toolkit Release 6.1a
- Windows NT 4.0 Resource Kit, Supplement Three
- Microsoft™ SNA Server Release 4.0 Service Pack 2
- Microsoft SQL Server Release 6.5 Service Pack 5a
- Microsoft Internet Information Server (IIS) 4.0
- Microsoft Internet Explorer 3.0 OR Netscape Navigator 3.01

Note: Explorer 4.01 or Navigator 4.0 is required to display HyperViews from the Tivoli Manager for OS/390 reporting system.

Tivoli Manager for OS/390 Client

- Windows NT Server 4.0, Service Pack 3

Planning Information

Packaging

- The Source 390 Object Monitor (base code for 5697-TMS) and its optional features are packaged on one OS/390 media. See the Ordering Information section for media types.
- The Windows NT Application Management Suite (Client/Server) Component is packaged on one CD-ROM.
- User publications are included in softcopy form on the CD-ROM.
- The IBM Program License Agreement and the License Information Booklet (form number LC23-4225) are also included with the product.

Security, Auditability, and Control

The announced program uses the security and auditability features of the operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.
Customer Financing

IBM Global Financing offers attractive financing to credit-qualified commercial and government customers and Business Partners in more than 40 countries around the world. IBM Global Financing is provided by the IBM Credit Corporation in the United States. Offerings, rates, terms, and availability may vary by country. Contact your local IBM Global Financing organization. Country organizations are listed on the Web at:

http://www.financing.ibm.com

Ordering Information

New Licensees

Orders for new licenses can be placed now.
Shipment will begin on the planned availability date.
New users of Tivoli Manager for OS/390 should specify:

<table>
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<tr>
<th>Type</th>
<th>Model</th>
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<tbody>
<tr>
<td>5697</td>
<td>TMS</td>
</tr>
</tbody>
</table>

Basic License: To order a basic license, specify the program number, feature number 9001 for asset registration, and the Tivoli Flex Per Copy one-time charge feature number for the base code. For each base code optional feature desired, specify the applicable one-time charge feature number. Also, specify the feature number for the desired distribution medium. At least one Source 390 Object Monitor (Base Package) license and one Windows NT Application Management Suite (Client/Server) license must be ordered.

- For every S/390® with a unique serial number a license is required.
- Only one Application Management Suite Client/Server license is required.

Example: For three different S/390 processors, each with a different serial number, order three Source 390 Object Monitor Licenses (Base Code), the desired Optional Features for each base code license, and one Application Management Suite License (Client/Server).

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Per Copy Flex Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source 390 Object Monitor 5697-TMS (Base)</td>
<td>0003</td>
</tr>
</tbody>
</table>

Base Code Optional Features:

| Batch Object Monitor | 0004 |
| DB2® Object Monitor | 0005 |
| CICS Object Monitor | 0006 |
| IMS™ Object Monitor | 0007 |
| Storage Object Monitor | 0008 |
| Windows NT Component | |

Description

Application Management Suite:

Server: 0001
Client: 0002

Tivoli Support: Support must be ordered through program number 5697-SPT by specifying feature number 9001 for asset registration and by specifying the First Year Standard Support — No Charge feature number. During the first year of a license, even though support is included in the base program fee, a no-charge order must be placed under 5697-SPT. Orders under 5697-SPT establish entitlement records worldwide. If an order under 5697-SPT is not placed, a customer will not be entitled to support, even during the first year of a license.

Customers are notified prior to the end of the initial support period. The first year support feature numbers will then be converted to feature numbers for annual support billing at the same level of support elected during the initial support period unless customers notify IBM that they want to discontinue support. Once the subsequent year support feature numbers are in place, charges are automatically renewed annually unless support is cancelled by the customer.

Tivoli pricing offers easy support. The following Support options are available:

- Standard — which provides customer support during normal business hours
- Extended — which provides customer support 24 hours per day, 7 days per week

If an upgrade to Extended Support is desired at initial order of a license and during the first 12 months of a license OR if Support is desired after the first 12 months of a license, specify the applicable feature numbers from the tables below.

Standard Annual Support Option: The following support will be provided for a period of 12 months after the first installation of the Tivoli product; and thereafter, if the customer subscribes to the Standard Annual Support Option:

- Corrections (PTFs) that fix substantial deviations of unmodified Tivoli products from the then-current code, publications, and/or informal documentation (that is, release notes and memos)
- Software product updates that are improvements, extensions, and other changes which IBM, at its discretion, deems to be reasonable
- Technical support that provides support via telephone, fax, or e-mail during normal IBM business hours in the customer’s locality from Monday through Friday, except local holidays, and supplies work-arounds for problems (where known), answers questions, and provides patches where they exist, and supplies to the customer a reasonable amount of assistance by mail or telephone in the event of difficulties in the use of, or the interpretation of, results from a Tivoli product

Extended Annual Support Option: The Extended Annual Support Option includes and extends the support services provided in the Standard Annual Support Option to include technical support via telephone 7 days per week, 24 hours per day. When a customer is notified about the upcoming termination of the initial no-charge support period, the customer may choose to acquire this option for subsequent years. An MES order must be entered for the Tivoli product’s charges using the applicable feature numbers from the table below. After an MES order is entered, the charges will automatically renew annually unless this option is cancelled by the customer.

Extended Support Upgrade: During the first year of a license, the customer can upgrade to the Extended Support Option by ordering the applicable one-time.
charge (OTC) feature numbers from the table below. The OTC feature numbers may be specified on the initial order or later via MES during the first year only. Ordering the OTC feature numbers will not result in an extension of the initial annual support period.

In subsequent years, if a customer has acquired the Standard Annual Support Option and then wants to upgrade to the Extended Annual Support Option, an MES order must be entered to discontinue the Standard Annual Support Option feature numbers and to add the Extended Annual Support Option feature numbers.

5697-SPT — Support Feature Numbers

The feature numbers in the tables below are orderable under 5697-SPT.

<table>
<thead>
<tr>
<th>5697-SPT Support for</th>
<th>Standard Support First Year</th>
<th>Standard Support Subsequent Year</th>
<th>Extended Support Subsequent Year</th>
<th>First Year Extended Support Upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Number/Name</td>
<td>No-Charge Feature Number</td>
<td>Annual Charge Feature Number</td>
<td>Annual Charge Feature Number</td>
<td>One-Time Charge Feature Number</td>
</tr>
<tr>
<td>5697-TMS Tivoli Manager for OS/390 Source 390 Object Monitor</td>
<td>0910</td>
<td>1910</td>
<td>2910</td>
<td>3910</td>
</tr>
</tbody>
</table>

Base Code Optional Features:

- Batch Object Monitor: 0911 1911 2911 3911
- DB2 Object Monitor: 0912 1912 2912 3912
- CICS Object Monitor: 0913 1913 2913 3913
- IMS Object Monitor: 0914 1914 2914 3914
- Storage Object Monitor: 0915 1915 2915 3915

Windows NT Components

Description

Application Management Suite:

- Server: 0240 1240 2240 3240
- Client: 0440 1440 2440 3440

Note: Neither the Standard Support Option nor the Extended Support Option is transferable among Tivoli products. Support Option feature numbers must be ordered, if desired, for each licensed product. The quantity of the billable feature numbers for Support must be equal to the number of servers and/or clients that are licensed to the customer, if support is desired.

Basic Machine-Readable Material: For the S/390 base code and associated features specify one of the following media feature numbers:

- OS/390 English (U.S.) 5702 4-mm Tape
- OS/390 English (U.S.) 5802 3480 Tape Cartridge
- OS/390 English (U.S.) 5801 9/6250 Tape

For the Windows NT Server Application Management Suite specify the following media feature number:

- Windows NT Client/Server English (U.S.) 5809 CD-ROM

Customization Options: Select the appropriate feature numbers to customize your order to specify the delivery options desired. These features can be specified on the initial or MES orders.

Example: If publications are not desired for the initial order, specify feature number 3470 to ship media only. For future updates, specify feature number 3480 to ship media updates only. If, in the future, publication updates are required, order an MES to remove feature number 3480; then, the publications will ship with the next release of the program.
### Initial Shipments
- Serial Number Only (suppresses shipment of media and documentation) - 3444
- Ship Media Only (suppresses initial shipment of documentation) - 3470
- Ship Documentation Only (suppresses initial shipment of media) - 3471

### Update Shipments
- Ship Media Updates Only (suppresses update shipment of documentation) - 3480
- Ship Documentation Only (suppresses update shipment of media) - 3481
- Suppress Updates (suppresses update shipment of media and documentation) - 3482

### Expedite Shipments
- Local IBM Office Expedite (for IBM use only) - 3445
- Customer Expedite Process Charge ($30 charge for each product) - 3446

Expedite shipments will be processed to receive 72-hour delivery from the time IBM Software Delivery and Fulfillment (SDF) receives the order. SDF will then ship the order via overnight air transportation.

### Unlicensed Documentation:
One copy of the following publications are supplied automatically with the basic machine-readable material for Tivoli Manager for OS/390:

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<th>Description</th>
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The Program Specifications and Specified Operating Environment information may be found in the Release Notes publication provided with this program.

The user publications/documentation for Tivoli Manager for OS/390 are shipped in displayable softcopy form as files on the same media type as the basic machine-readable material. This documentation is in PDF and HTML formats.

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**Guarantee:** Not applicable for this product

**Use Limitation Applies:** Yes

**Educational Allowance Available:** Yes, to qualified education customers

**Volume Orders:** Not applicable

**Upgrade Protection Applies:** Covered as long as Support remains in effect

**Licensed Program Materials Availability**
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- Non-Restricted Source Materials: None
- Object Code Only (OCO): All

**Program Services**
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- Available Until:
  - 12 months after program is available to the customer.
  - After 12 months, for a fee as part of the IIAAPS offering.
  - Available for program until six months after written notice.
- Applicable For:
  - Latest code level.
  - Immediate previous level for 12 months.
- APAR Mailing Address:
  
  Tivoli Systems Inc.  
  9442 Capital of Texas Highway  
  Austin, TX 78759 USA  
  Attention: Tivoli Manager for OS/390 Development

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