IBM

IBM Electronic Services

Support for Business in an On Demand World

- Use IBM Electronic Services to run an on demand business
- Install and run Electronic Service Agents on IBM @server
- Access worldwide support from the Internet

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International Technical Support Organization

IBM Electronic Services: Support for Business in an On Demand World

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Note: Before using this information and the product it supports, read the information in Notices.

First Edition (October 2004)

This edition applies to IBM Electronic Services on the following IBM @server platforms:
- For IBM @server iSeries prior to Version 5, Release 3, product number 5798-RZG
- For IBM @server i5, product number 5722-SSI
- For IBM @server pSeries, product number 5765-E73
- For IBM @server xSeries, product number 5639-N89
- For IBM @server zSeries, product number 5655-F17

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Preface

What is IBM® Electronic Services? Why do I need it? Where do I get it? When and how do I get it? How will this help me move into an on demand business?

Find the answers to these questions and more details about *IBM Electronic Services* in this IBM Redbook. In an on demand environment, IBM Electronic Services integrates the IBM Support community with your company to ensure that your IT environment is running with minimal disruption and maximum efficiency. The two components of this strategy are IBM Electronic Service Agent™ (Service Agent) and the IBM Electronic Services Web site.

Service Agent is available for all IBM @server® product lines, in all countries or regions where IBM does business. This redbook teaches you the basic steps to install, activate, and use Service Agent in your enterprise for each product line: IBM @server iSeries™, pSeries®, xSeries®, and zSeries®.

This redbook also highlights the Electronic Services Web site and how to use the features of Service Agent through this site. For example, you can view the Service Agent inventory and use Service Agent information in the Premium Search tool. You can also see a list services that use Service Agent information, such as Performance Management offerings and Capacity Upgrade on Demand (CUoD). Plus this book explains how you can benefit from the on demand benefits of using Service Agent.

This redbook is intended for IT management and system operators who work for IBM Clients. Prior to reading this redbook, you should have a thorough understanding of your computer system and networking environments.

The team who wrote this redbook

This redbook was produced by the IBM Electronic Services global organization. This includes the IBM Electronic Service Agent and the Electronic Services Web site teams, as well as representatives from each IBM business region. Assistance was provided by the International Technical Support Organization (ITSO), Rochester Center.

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1

Welcome to IBM Electronic Services

You've turned to the right source to learn what IBM Electronic Services is, why you need it, where to get it, when and how to get it, and how it will help you move into an on demand business. But before you can learn about all of these details, you need to understand the two key components of IBM Electronic Services: IBM Electronic Service Agent and IBM Electronic Services Web site.

This chapter presents an overview of how these two components interrelate, support each other, and provide input to other IBM organizations. The goal of IBM Electronic Services is to be a key element in your on demand business environment.

Let's get started!

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1.1 What is Electronic Services?

Electronic Services (eServices) is an IBM Support strategy made up of Electronic Service Agent and the Electronic Service Web site. As illustrated in Figure 1-1, Electronic Service Agent (Service Agent or SA) submits hardware problem management records (PMR) and an inventory collection. Both are transmitted automatically, within protected firewalls, into the IBM structure. This information is visible to you and those users who you authorize on the Electronic Services Web site. Organizations within IBM can use the same information or results to assist you with support functions, solution delivery, and planning for the future.

This structure works in any IBM @server client environment. This information flow is viewed as autonomic computing, which is a key element of the on demand business practice.

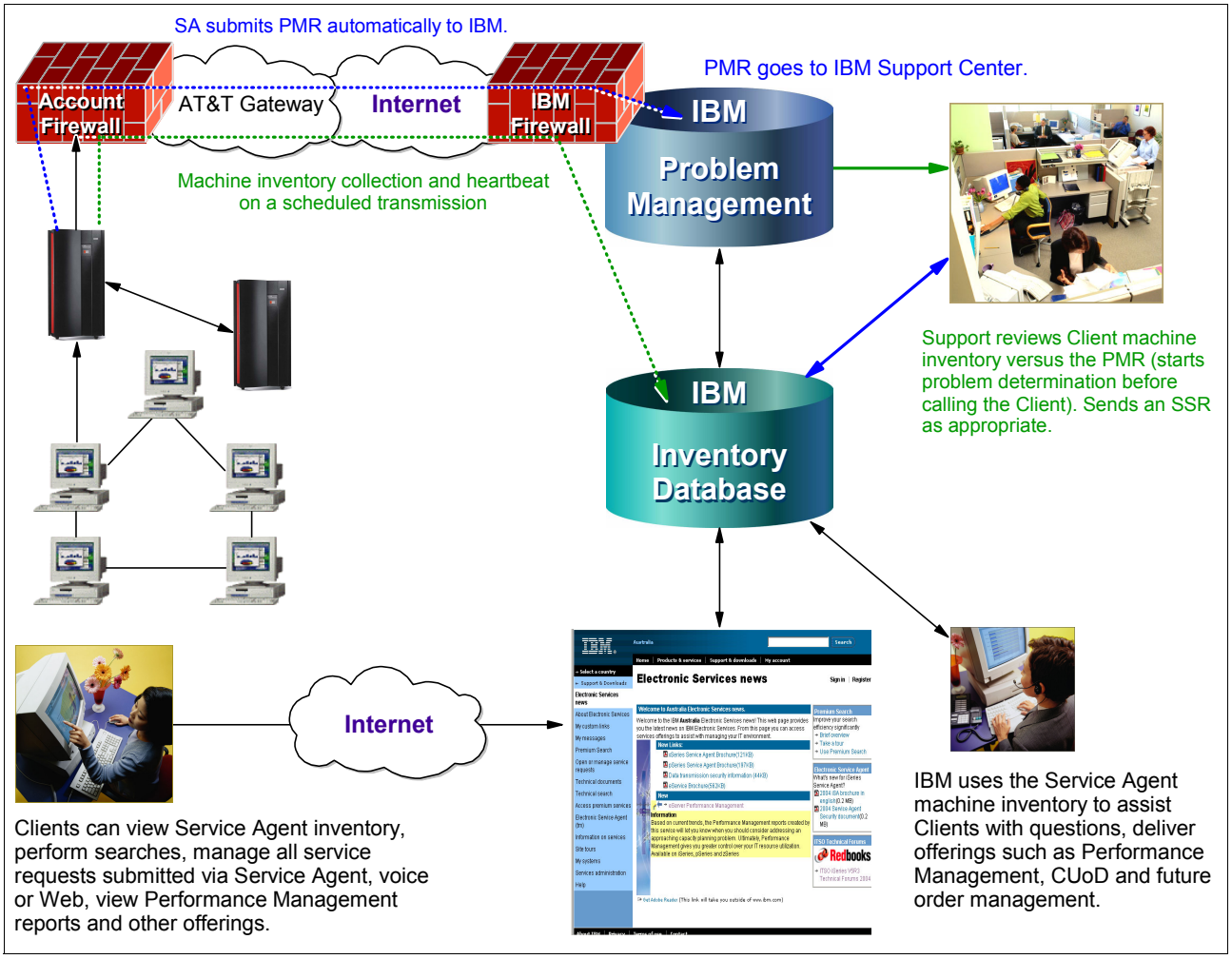

Figure 1-1 eServices overview

1.2 Why you need Electronic Services

Electronic Services provides a collaboration between you and IBM, so that IBM can offer better support of your information technology (IT) environment. Our partnership is designed for your success.

Electronic Services brings the following benefits to your organization:

- Minimizes system downtime with automatic problem submission and the ability by the IBM Support community to view current machine inventory
- Automates hardware problem submission with additional error data
- Improves productivity through time-saving tools
- Offers a multi-country (region) or single country (region) view of machine inventory, for authorized users who use the Electronic Services Web site
- Uses the Electronic Services Web site to provide access to IBM libraries and information databases
- Adds to your self-help toolkit by using the Premium Search Web tool
- Personalizes Premium Search results by using Service Agent information
- Provides Web access to submit, manage, and view the real-time status of service requests

1.3 Electronic Service Agent

Electronic Service Agent is revolutionizing the way IBM delivers and supports its clients in an on demand environment around the world. It is automatically shipped with many IBM @server systems without additional charge. For other systems, it can be added free of charge. The platform-specific chapters in this redbook give details about installation and activation of Serve Agent for each platform.

Service Agent helps clients to minimize the resources required to run and maintain a system or networked systems. It enables IBM to provide you enhanced problem prevention and resolution capabilities.

Service Agent's two functions, automatic hardware problem reporting and machine inventory collection, enable proactive and predictive services, as well as faster problem resolution and call avoidance. Service Agent tracks and captures machine inventory, hardware error logs, and automatically reports hardware problems to IBM if the server is under a service agreement or warranty. The information that is collected is available to IBM support representatives while they are working on a client problem.

Table 1-1 through Table 1-3 show the specific features and benefits of automatic hardware problem reporting and machine inventory collection provided by Service Agent. Table 1-1 outlines the features and benefits of hardware reporting.

Table 1-1 Service Agent hardware reporting

Automatic Hardware Reporting					
Feature	**iSeries**	**pSeries**	**xSeries**	**zSeries**	**Benefit** **Enhanced Client Satisfaction**
Report HW problems and send error data.	✓	✓	✓	✓	▪ Confidence knowing your system is being monitored ▪ Less time explaining problems to the IBM support community ▪ Higher availability through faster problem resolution ▪ Better call routing because more information is known up front ▪ Getting the right part the first time ▪ Higher quality and effectiveness of support ▪ Ability to view Service Agent information on the web ▪ Leveraging IBM resources
Collect Extended Error Data	✓	✓			
Consult Knowledgebase for additional fix information	✓	✓		✓	
Collect System Logs	✓				
Determine part number(s)	✓	✓	✓	✓	
Notify CSR	✓	✓	✓	✓	

Table 1-2 outlines the features and benefits of the inventory collection function.

Table 1-2 Service Agent inventory collection

Machine Inventory Collection					
Feature	iSeries	pSeries	xSeries	zSeries	Benefit
Hardware Inventory and System Configuration	✓	✓	✓	I/O only	▪ Easy access to current system configuration to assist in problem determination ▪ Accurate parts call out ▪ Accurate hardware and software fix identification ▪ Enable marketing to assess needs and requirements ▪ Enable customized solutions for marketing and sales ▪ Ensures accurate billing
Software Inventory	✓	✓	✓	✓	
PTFs (software fixes)	✓	✓	✓	✓	

Table 1-3 outlines the features and benefits of transmission security. Electronic Service Agent communicates with IBM via a secure connection using encryption and authentication, with Internet or a dial-up connection using AT&T Global Network Services. You can ensure your privacy and the security of your machine inventory information and problem submission record, both in the transmission and usage of your information inside IBM.

Table 1-3 Service Agent transmission security

Transmission Security					
Feature	**iSeries**	**pSeries**	**xSeries**	**zSeries**	**Benefit**
Connect to IBM via HTTPS	✓	✓	✓	pending	▪ Variety of connection options to satisfy most client configuration ▪ All connections are secure ▪ All communications are encrypted ▪ All communications are authenticated
Connect to IBM via Internet	✓	✓	✓		
Connect to IBM via Dial-up	✓	✓	✓	✓	
Proxy/Firewall support	✓	✓	✓		

1.4 Electronic Services Web site

The second component of IBM Electronic Services is the Web site. This component offers one location for you to access many IBM Internet service and support links. This is truly a global site, in that it is tailored to 64 countries (regions) and the national language, with visibility to the services offered by IBM in that country (region).

The Electronic Services Web site offers:

- A Web site that is available for customization by the IBM @server
- Messages or notifications for specific platforms or by individual profile definition
- 24x7 access view of Service Agent information in customized reports such as hardware and software inventory, fixes, and system parameters
- A single portal for hardware and software information and reference materials
- A Premium Search facility that uses Electronic Service Agent information to provide customized results for specific machines, from IBM reference databases
- The ability to submit a service request for either hardware or software
- Access to Web-delivered premium services such as Performance Management

Table 1-4 shows the features that are available for each IBM @server product line when viewing the Service Agent information.

Table 1-4 Electronic Services Web site: Viewing Service Agent Inventory

Viewing Service Agent Inventory					
Feature	**iSeries**	**pSeries**	**xSeries**	**zSeries**	**Benefit**
Hardware Inventory and System Configuration	✓	✓	✓		▪ Easy Web access to current system configuration to assist in problem determination even when system is unavailable ▪ Enables comparison of inventory across multiple systems ▪ Provides customizable reports for printing and record keeping ▪ You control access - add or remove users on the Web
Software Inventory	✓	✓	✓	✓	
PTFs (software fixes)	✓	pending	✓	✓	

Table 1-5 shows the features that available for each of the IBM @server product line when using Service Agent information during a Premium Search query.

Table 1-5 Electronic Services Web site: Premium Search

Premium Search using Service Agent information					
Feature	**iSeries**	**pSeries**	**xSeries**	**zSeries**	**Benefit**
Filter by installed fixes	✓	pending	✓	pending	▪ Search based on what you have installed with the release level and fixes ▪ Reduces irrelevant search results to help you focus on what applies to your system ▪ Save searches so you can quickly search for documents of interest and related to your system inventory
Filter by operating system type	✓	pending	✓	FMID	
Filter by installed products	✓	pending	✓	✓	

2

IBM Electronic Service Agent

Electronic Service Agent supports several functions. This chapter highlights these functions and describes the current environments in which you can use them.

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2.1 Electronic Service Agent overview

The first product in the Service Agent family, Service Director™ SubSystem (Service Director or SDSS), was introduced in 1987. It monitored direct access storage device (DASD) input/output (I/O) attached to a S/390® platform. After 17 years, the scope of platform coverage now works with or is integrated into five operating systems. IBM Clients in over 64 countries (regions) can activate Electronic Service Agent.

The following list outlines the current Electronic Service Agents. Since there are periodic updates on each platform, refer to your user guide for the most current listing of machine types and operating system coverage.

- Electronic Service Agent for iSeries: For machine types 940x models with OS/400® V5R3 and 940x models with IBM i5/OS™
- Electronic Service Agent for pSeries: For all current 9076 models and 70xx with AIX® Version 4.2.1 or later
- Electronic Service Agent for Linux®, on pSeries: For SUSE Linux Enterprise Server (SLES) Version 8 with Service Pack 3 and SLES Version 9
- Electronic Service Agent for xSeries: For Windows® 2003, Internet only or IBM Director Versions 4.11 and 4.12
- Electronic Service Agent for zSeries: For S/390 Version 2.10 through z/OS® Version V1.1 or later

Figure 2-1 shows how the Service Director span of functions has evolved into the current Service Agent functions.

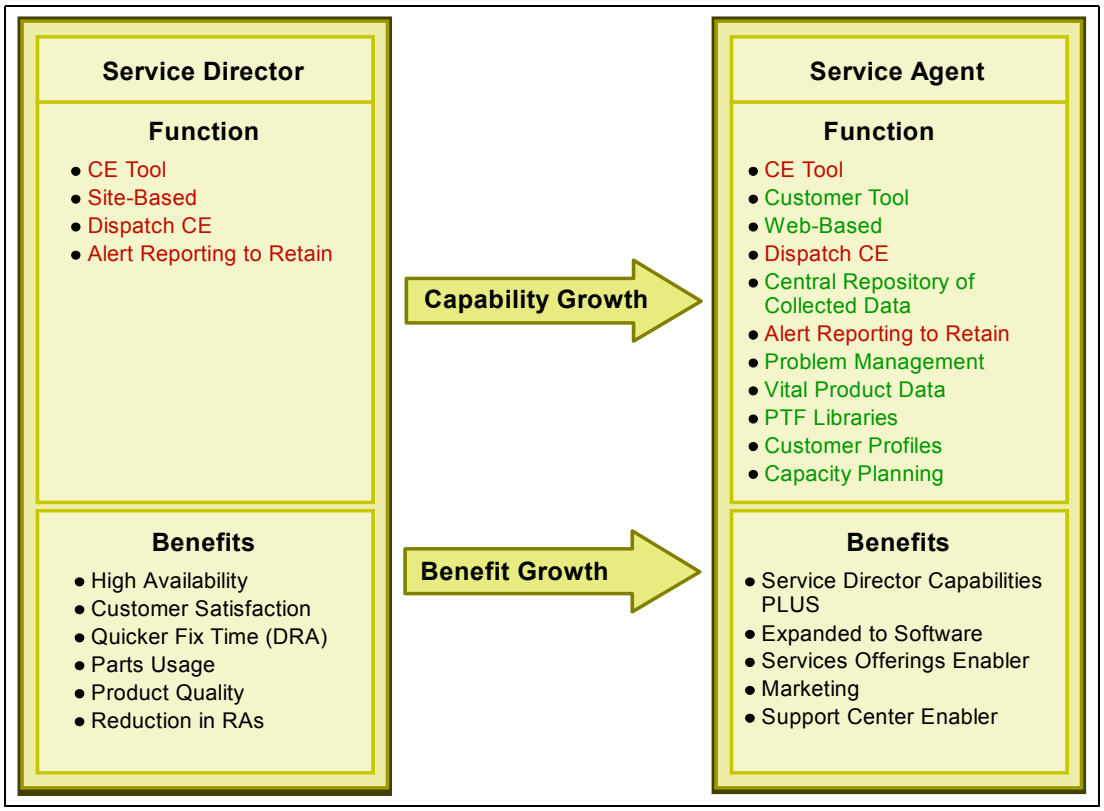

Figure 2-1 Service Director growth into Service Agent

2.2 Environments

Service Agent is available on each IBM @server product line for stand-alone and network environments. The secure communication options range from modems to the Internet. Figure 2-2 provides an examples of a stand-alone environment.

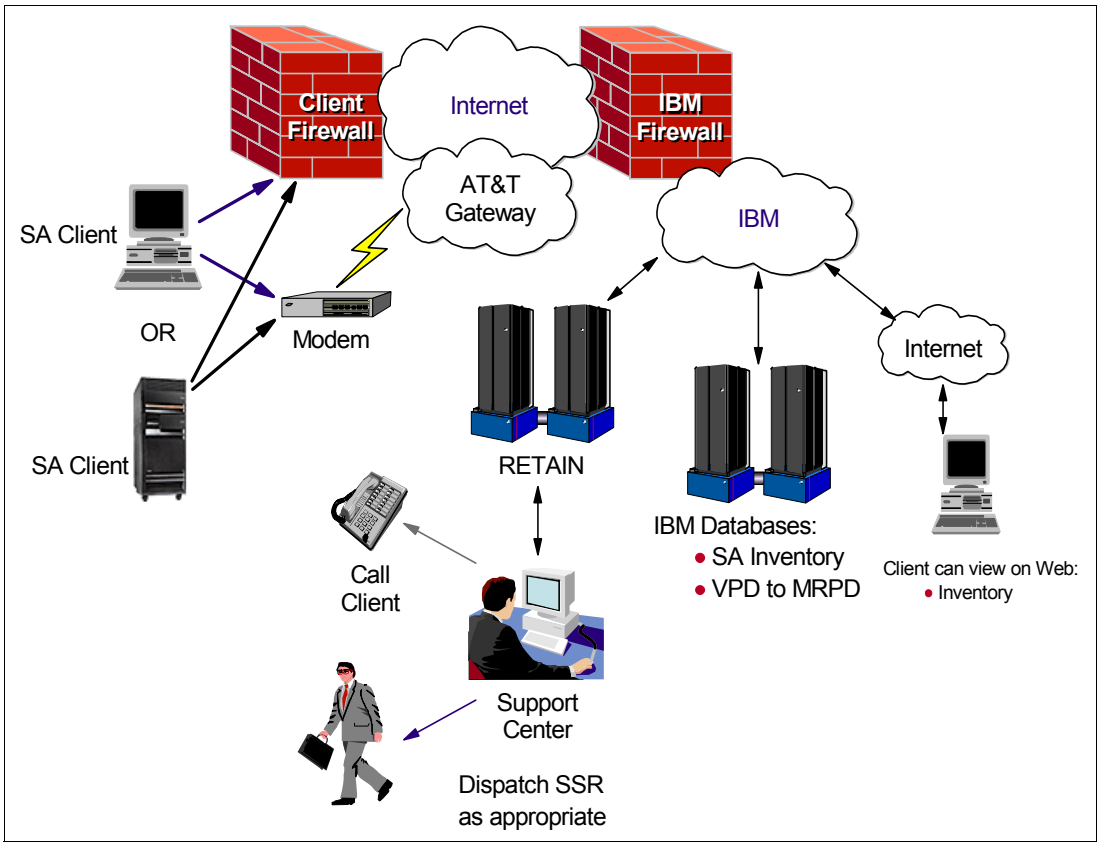

Figure 2-2 Generic stand-alone network

Figure 2-3 shows an example of a network environment. In this environment, Service Agent flows inside complex networks and helps to manage the complexity with automatic hardware problem submission and inventory collection.

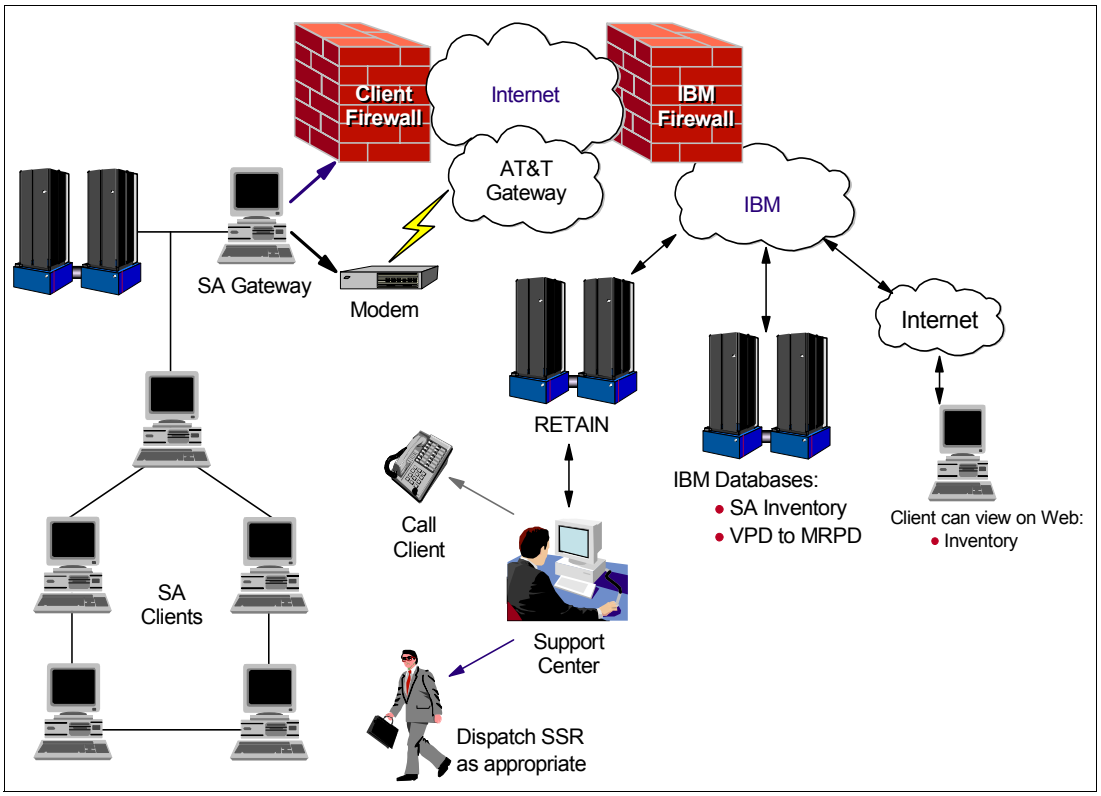

Figure 2-3 Generic complex network

2.3 Privacy and security of your information

Refer to the document *Transmission Security Information Inventory Information Privacy*, from the following site:

`https://ibm.com/support/electronic`

This document provides a high-level view of the security features during the Electronic Service Agent inventory transmission between a client system and the IBM infrastructure. It also provides a brief description of inventory information. The following sections highlight key information from this document.

2.3.1 Privacy

The machine inventory information that is gathered from client systems is typically collected by speaking with clients during phone calls with the IBM Support Center, pre-sales specialists, administrative clerks, and other groups within IBM. These IBM groups have electronic access to the information so that they can prepare, perform advance problem determination, and more efficiently serve IBM Clients.

Note: In some IBM organizations, the representatives are not full-time IBM employees or may be vendors who are working under IBM direction and contract. These staff members are subject to same privacy and security guidelines as any IBM employee.

The inventory information includes:

- Your support contact information, including names, phone numbers, and e-mail addresses
- System utilization, performance, system failure logs, part feature codes, part number, part serial number, part locations, software inventory, operating system applications, program temporary fixes (PTFs), the maintenance level, and configuration values

Using platform-specific commands, authorized IBM employees can view all inventory information about the system.

Inventory information does not include:

- Collection or transmission of any of your company's financial, statistical, or personnel data
- Client information
- Your business plans

In addition, Service Agent may provide a "call home" mechanism for other IBM offerings that you may select in the future. The information collected by such offerings is covered in separate agreements, for example for Performance Management and Capacity Upgrade on Demand offerings.

2.3.2 Transmission security

Electronic Service Agent has the ability to collect machine inventory information and transmit it to IBM on a scheduled basis.

- All Service Agent transactions are outbound requests secured by encryption (Hypertext Transfer Protocol Secure (HTTPS) or POST).
- Service Agent has *no* inbound capability. Service Agent client code cannot accept incoming connection attempts. For example, the Service Agent client initiates a connection with IBM, similar to a Web browser, and then IBM replies. However, IBM never initiates a connection to a client environment.

During the activation and setup of Electronic Service Agent, the client may select to transmit this information either via the Internet or the AT&T Global Network Services (AGNS) phone connection. The Service Agent code has the appropriate information to use for either communication method. Both of these transmission paths use Secure Sockets Layer (SSL) and TCP/IP protocols. Service Agent uses the client's connectivity environment, including any firewalls that the client has established.

Figure 2-4 shows a summary of the connection into IBM. The nature of maintaining a high-level security posture dictates that IBM and AGNS do not divulge in-depth details regarding the management of security: tools, processes, and audits.

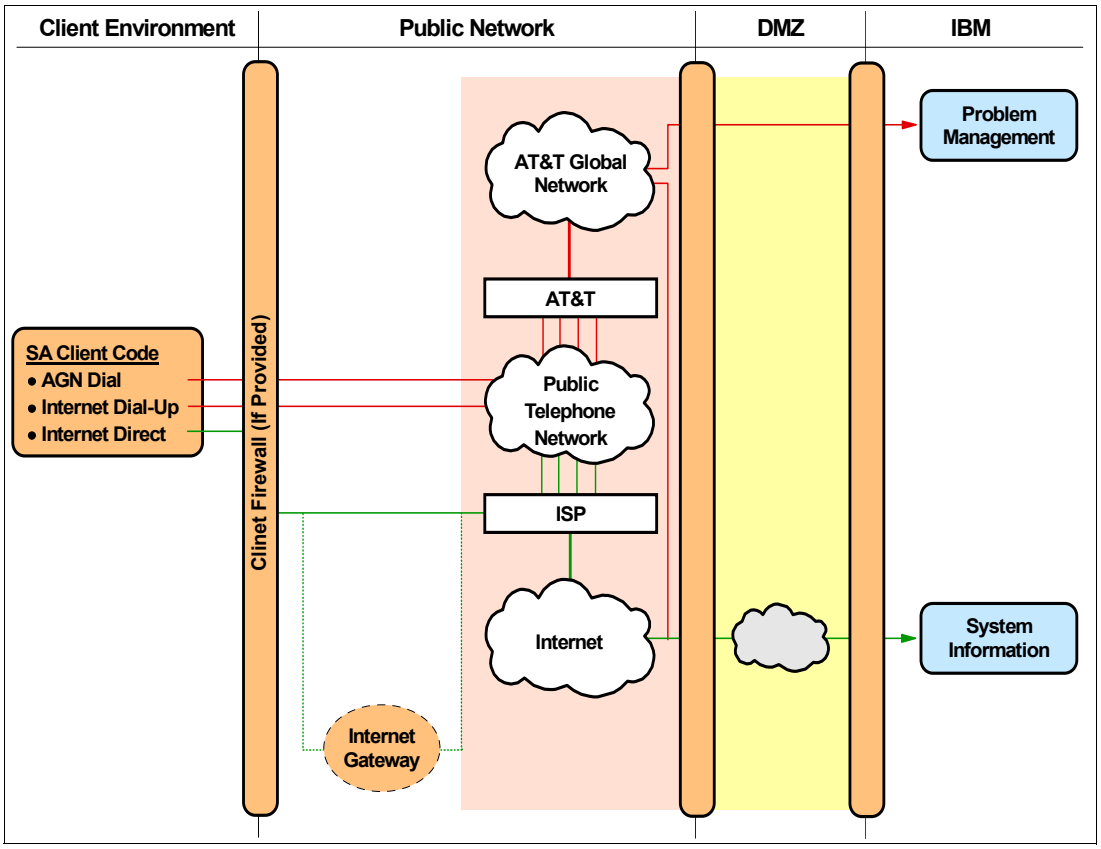

Figure 2-4 Service Agent transaction environment

Internet

Note: The Internet provider relationship and connection are the responsibility of the client.

For the authentication of transmission, system IDs and passwords are generated for the client system every six months by the server using an algorithm. The passwords are not visible to the user. A user may request that a new password be generated, if deemed necessary.

If you select the Internet path to send your Service Agent machine inventory information, then the following process applies:

1. Service Agent collects the information to be transmitted and queues for transmission at the scheduled time.
2. At the appropriate time, you establish an Internet connection using system IDs and passwords that were created previously.
3. An SSL connection is established between your system and IBM.
4. Service Agent inventory information flows to IBM destination (predetermined by the Service Agent code).
5. Upon arrival at IBM, the inventory is transferred to the appropriate IBM database.

Telephone, AT&T Global Network Service transmission

You can use the AGNS TCP/IP Remote Access Service (Secure IP) as a limited use network service provider. This is a point-to-point, dial connection, which has a specific IBM account with AGNS. The information is encrypted prior to entering the AT&T network. No party on the AT&T network can decrypt the information. The information is decrypted only inside IBM firewalls by the appropriate application.

AT&T provides a document that describes their communication process with Service Agent. Refer to the document *Transmission Security Information Inventory Information Privacy*, from the following site:

`https://ibm.com/support/electronic`

If you select the AGNS path for your Service Agent machine inventory information, then the following process applies:

1. You have a modem connected to your system.
2. Service Agent collects the information to be transmitted and queues for transmission at the appropriate time.
3. The system dials AGNS LIG at the appropriate time and establishes a connection using an AGNS ID and password.
4. An SSL connection is established with IBM through the AGNS LIG.
5. Service Agent inventory information flows to IBM destination (predetermined by Service Agent code).
6. Upon arrival at IBM, Service Agent inventory is transferred to the appropriate IBM database.

2.4 Statement of Direction

The future direction is to tightly integrate the Service Agent technology into all IBM products. With the pro-active monitoring and inventory reporting that Service Agent provides, IBM Clients and IBM Support engineers have the latest diagnostic and inventory information at their fingertips to quickly solve even the most complex problems.

In 2004, IBM enhanced Electronic Services in the following areas:

- Service Agent achieved the first step in the integration process with the IBM i5/OS operating system.
- Service Agent was integrated into the AIX licensed program product (LPP) expansion pack distribution.
- Service Agent for Linux, on @server p5 and pSeries, was released for GA in early September.

We expect to provide the following enhancements in 2005:

- Integration with more IBM @server product lines and processes
- New platforms such as Linux on the xSeries platform
- Support for IBM @server BladeCenter servers

Note: The information that is released represents the current intent of IBM. It represents goals and objectives only. All statements regarding the plans, directions, and intent of IBM are subject to change or withdrawal without notice.

3

IBM Electronic Services Web site

The Electronic Services Web site supports 64 countries (regions) in 22 languages. You can customize the site using platform profiling. Plus you can view your Service Agent inventory, add IBM IDs to view and use the Service Agent inventory, customize Premium Search results using Service Agent information, and view Performance Management reports on this Web site.

This chapter explains how to use the IBM Electronic Services Web site and its features.

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3.1 Electronic Services Web site overview

The Electronic Services Web site evolved from a single platform (AS/400®) in 1999 for a single country (region) to all platforms for 64 countries (regions) in 22 national languages. The current site provides the ability to view Service Agent inventory, use the Premium Search facility, open and manage service requests, customize site to client preference, and receive support messages by platform or individual. Several of the categories use the IBM Registration ID for authentication and relationship to systems (machine serials) and Electronic Service Agent information.

To locate the Electronic Services Web site, go to the following Web address:

`http://ibm.com/support/electronic`

On the first page that opens, select your country (region) and language. In this example, we selected Australia (English). Figure 3-1 shows the Australian news page that opened. This chapter provides sample windows in the English language from this version of the site.

Figure 3-1 Electronic Services Web site: Australian Welcome page

3.2 Viewing Service Agent information

Users who are authorized by association with their IBM ID and machine serial activation can view Electronic Service Agent machine information at the Electronic Services Web site under the My systems category. Several steps ensure that only such authorized users can view and use the Service Agent information.

1. Service Agent must be activated on a machine so that it can transmit inventory information.
2. A representative from your organization must register their IBM ID during the activation process. The first person to register is the *administrator* who has the ability to add, remove, or approve additional IBM IDs.
3. A new user with an IBM ID who requests access to a machine's information completes a request on the Electronic Services Web site, under the Services Administration category. This request goes to the administrator of the machine serial number.
4. The administrator must approve the request before any access is given.

The IBM Support community has equal visibility to the information through an internal site.

3.2.1 IBM ID

Your IBM registration ID is your single point of access to IBM Web applications that use registration. Several categories on the Electronic Services Web site, including My systems use the IBM ID for authentication. The IBM ID can be associated with individual profiles that you may have established on IBM sites or machines that you have associated with your IBM ID, for example during Service Agent activation.

You may create or update your IBM ID on the My IBM registration page at:

`https://www.ibm.com/account/profile?page=reg`

Figure 3-2 shows an example of the IBM ID sign-in page.

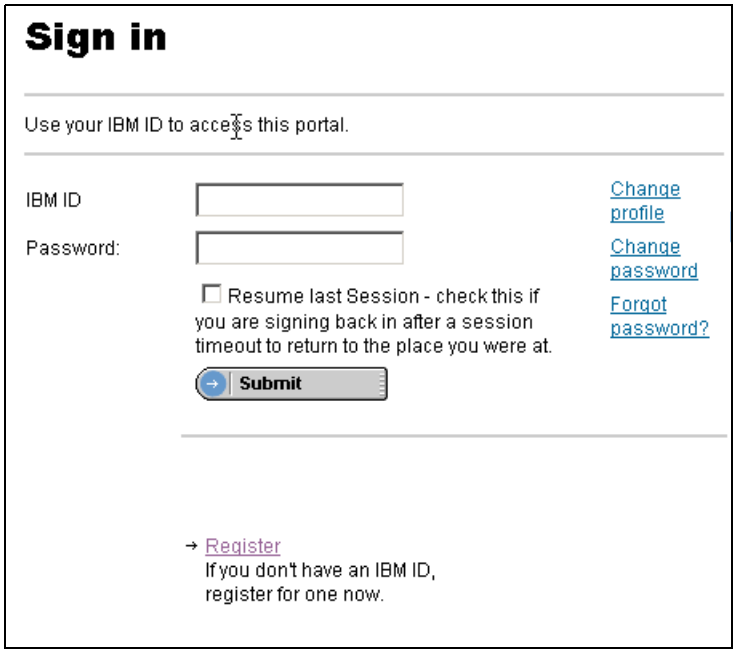

Figure 3-2 IBM ID sign-in page

3.2.2 Registration during Service Agent activation

All Service Agent platforms have a registration panel during the activation process. During this process, you have the opportunity to add several IBM IDs.

The first IBM ID entered on the Service Agent page is the administrator, or primary contact, for the system in relationship to the IBM Electronic Services Web site. Other IBM IDs entered on the Service Agent client page are authorized to use the Service Agent information on the Web site. They can be delegated to the role of administrator through the Services administration category on the Electronic Services Web site.

The administrator has the ability to add or remove users and to manage who has access to Service Agent information on the Electronic Services Web site. This person is the responsible representative for your company's periodic reviews of the contacts associated with their systems.

Figure 3-3 shows the Service Agent window for xSeries to register your machine and IBM ID during the Service Agent activation process.

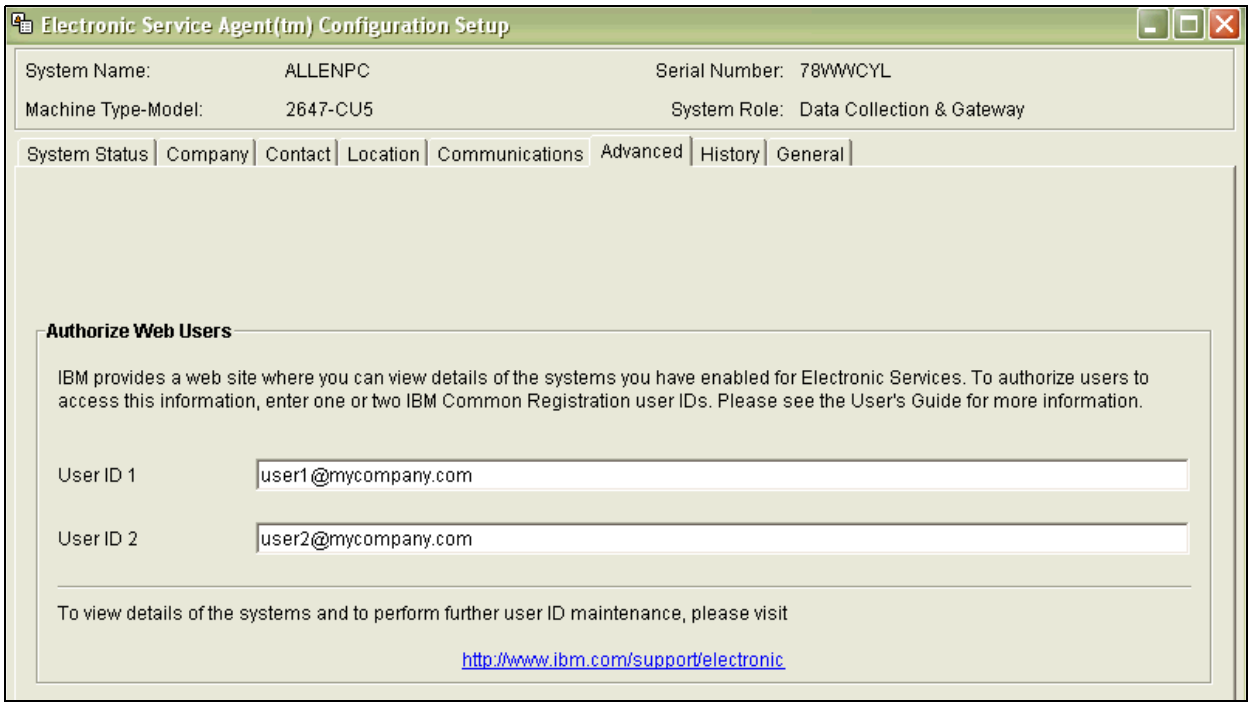

Figure 3-3 Service Agent for xSeries registration window

3.2.3 My systems

The My systems category in Electronic Services is where you can view your machine inventory that is collected and transmitted by Electronic Service Agent. The same information is visible to the IBM Support community for use in problem determination.

The reports are available for sorting within columns and printing or downloading in several formats. The reports are categorized to provide similarity between platforms, although they may vary as necessary based on the terminology and capability of the platform.

To begin, you select the machines that you want to include in the reports. Figure 3-4 shows an example of the first page. It displays the machine serial numbers that are authorized for the IBM ID used in the session. The table includes a column with the date of last inventory transmission to IBM, so you know how current the information is that is provided in the reports.

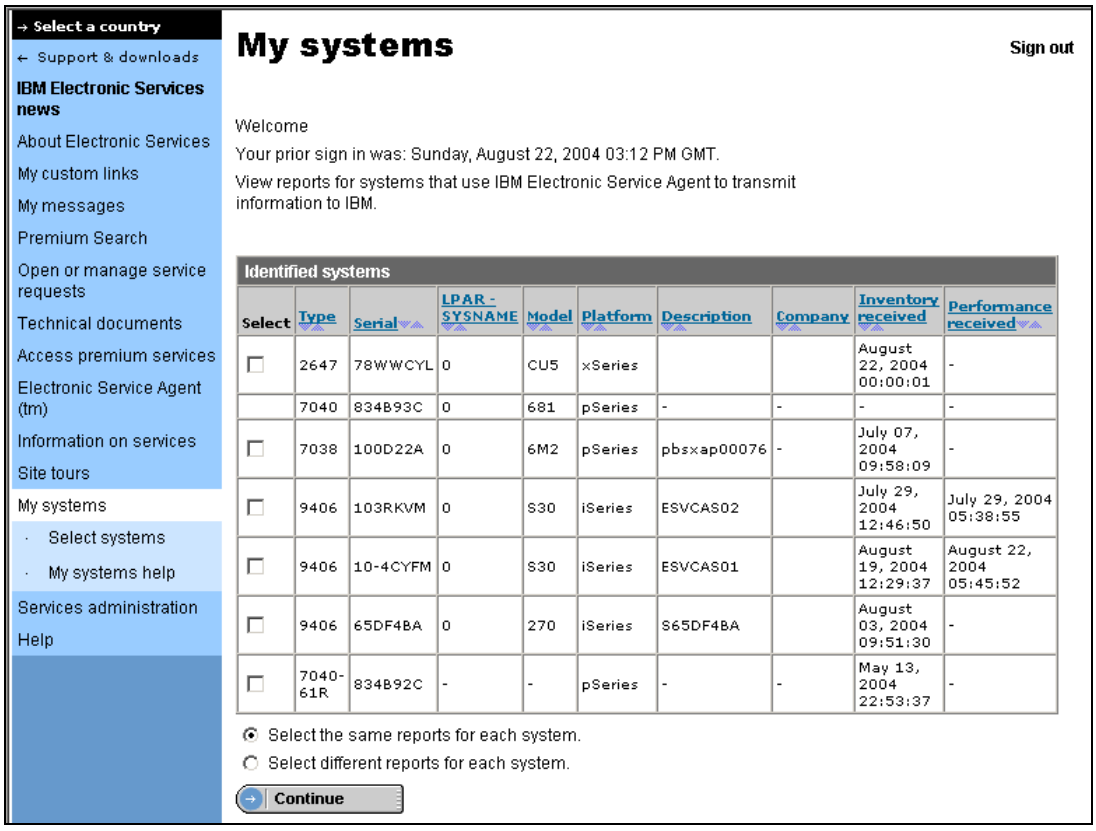

Figure 3-4 My systems: Sample table of machine serial numbers

Figure 3-5 shows the report selection page that is available for a 9406 machine type. The report fields may vary by platform.

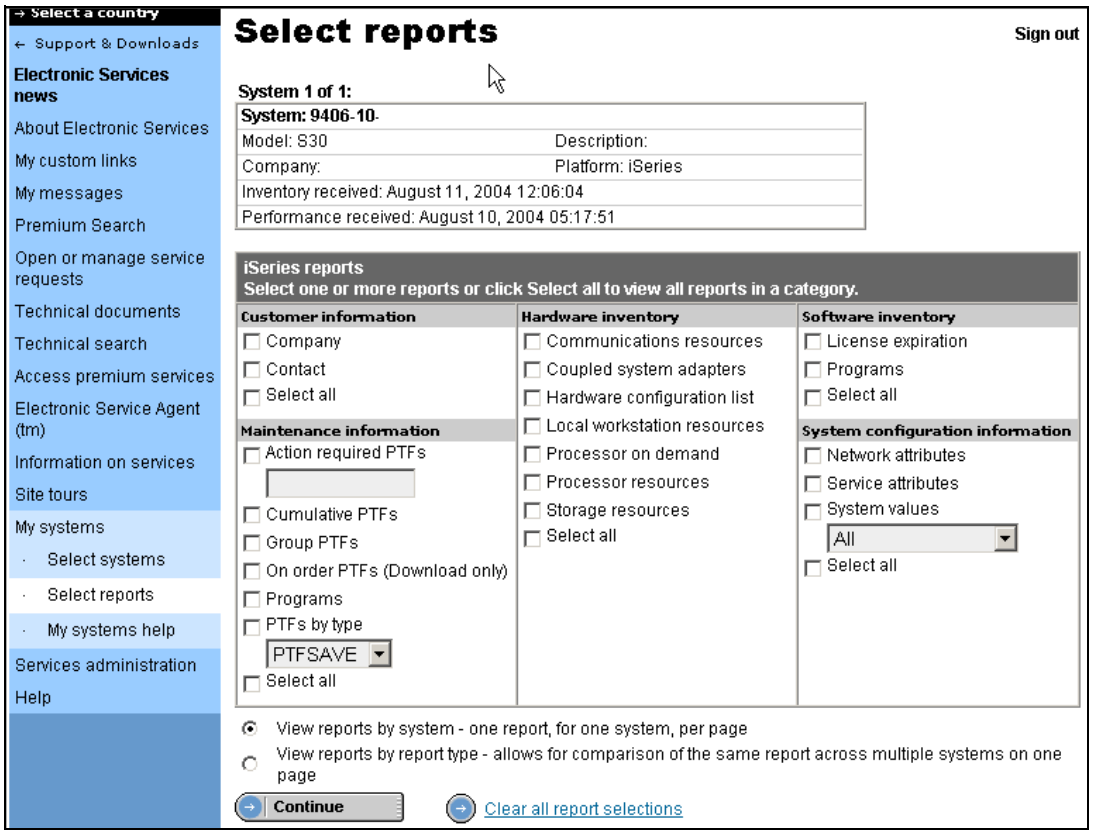

Figure 3-5 My systems: Report selection view

The report sample in Figure 3-6 shows the Storage resources list for the system that is selected.

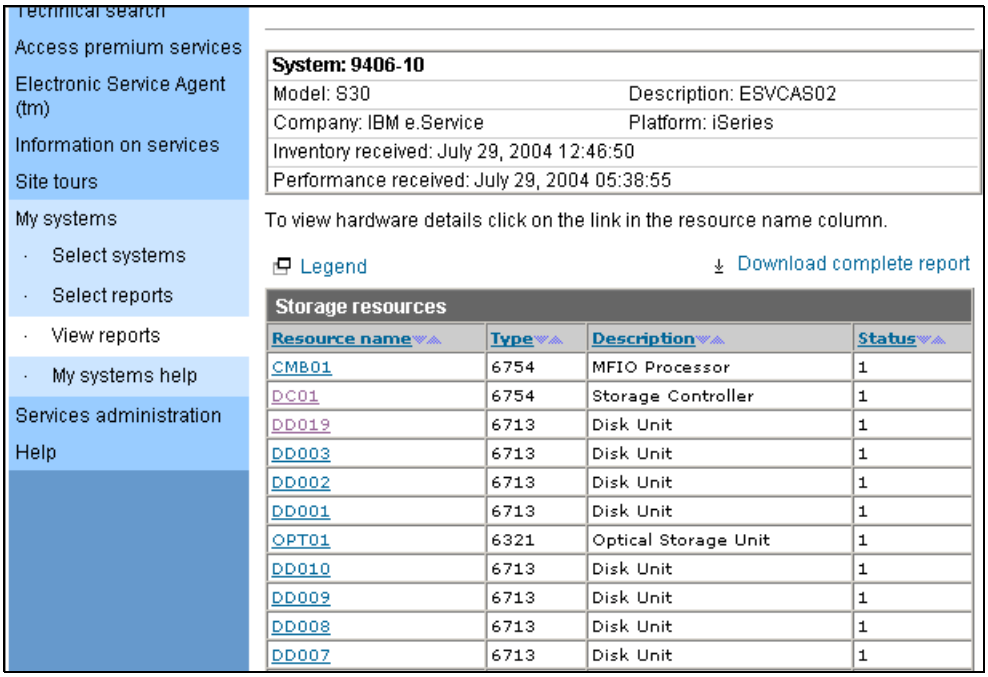

Figure 3-6 My systems: Storage resources report

Figure 3-7 shows one of the Storage resources expanded to show detailed information.

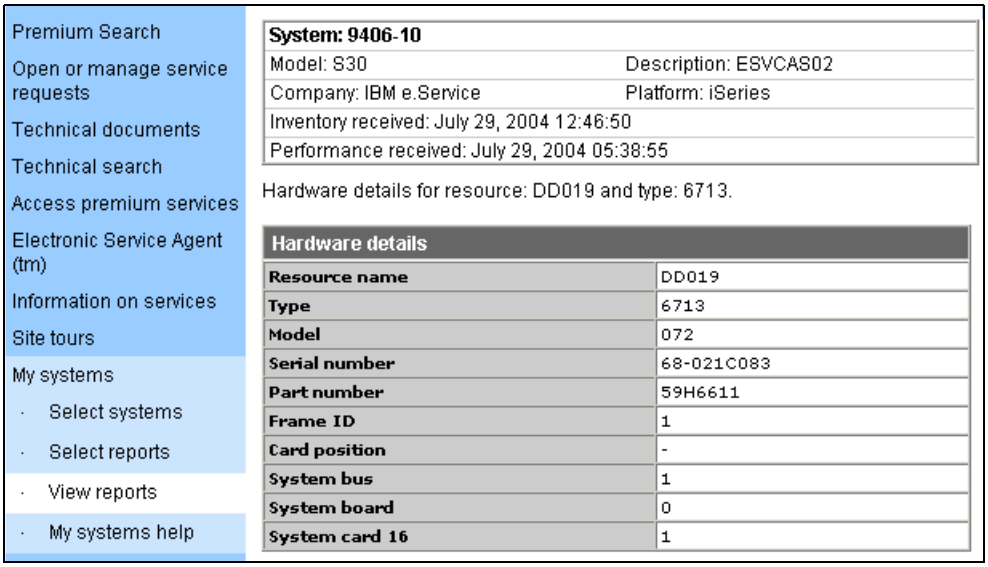

Figure 3-7 My systems: Storage resource expanded

3.2.4 Adding additional IBM IDs to view your machines

In order for users to be authorized to access, view, and use the Service Agent inventory collected from your systems, they must be associated with the system as a contact. A contact for a system can view the reports in My systems and use Premium Search on the IBM Electronic Services Web site.

The first IBM ID entered on the Service Agent page is the administrator for that system. The administrator is required to manage the users who are contacts for a system. The administrator can add other IBM IDs to access, view, and use the Service Agent information on the Web. When other IBM IDs or users may request access to the information on the Web, the administrator receives an e-mail asking for approval. Therefore, it is important that the administrator's e-mail address is correct in the IBM ID registration profile. The administrator can also remove users so they no longer have access to the Service Agent information.

To add a new IBM ID, follow these steps:

1. Go to Electronic Services Web site and select the **Services administration** category.
2. Sign in using your IBM ID.
3. After you are recognized as an administrator for one or more systems, you see the systems listed in the Administrator: Systems view (Figure 3-8). Select the system and click the **Add contact** link to add a user.

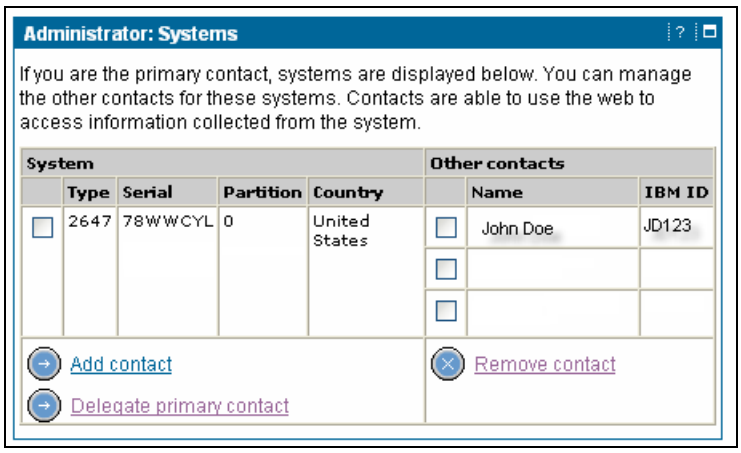

Figure 3-8 Services administration: Viewing the systems and IDs

4. On the next page (Figure 3-9), enter one or more IBM IDs and click **Submit**.

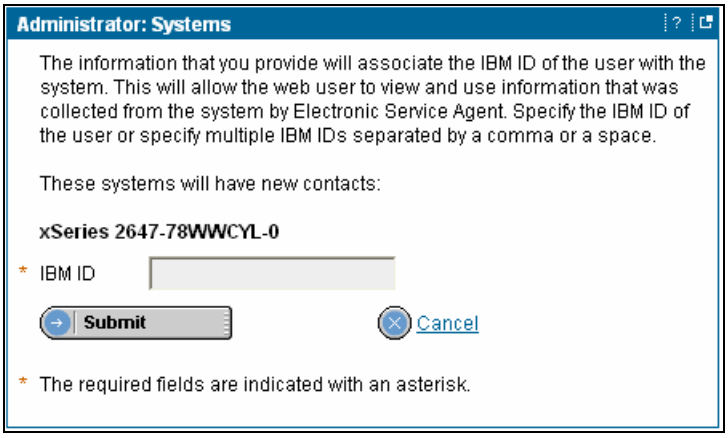

Figure 3-9 Services administration: Adding contacts

You see the My service profile: Systems page (Figure 3-10), with the IBM ID added, along with the system information.

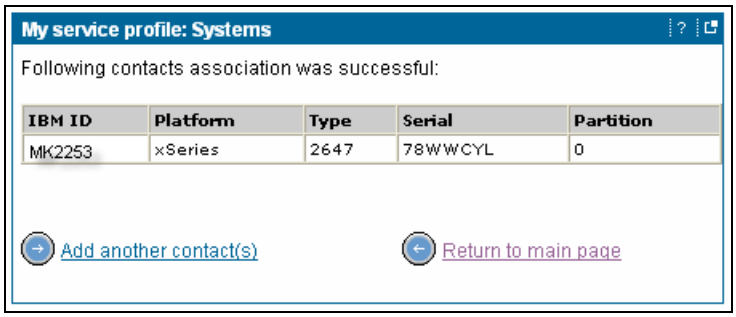

Figure 3-10 Services administration: Confirmation window

If you are not the administrator for a machine serial number, you can request to add a machine to your IBM ID profile using the Services Administration category on the Electronic Services Web site. Figure 3-11 shows the first panel of the request.

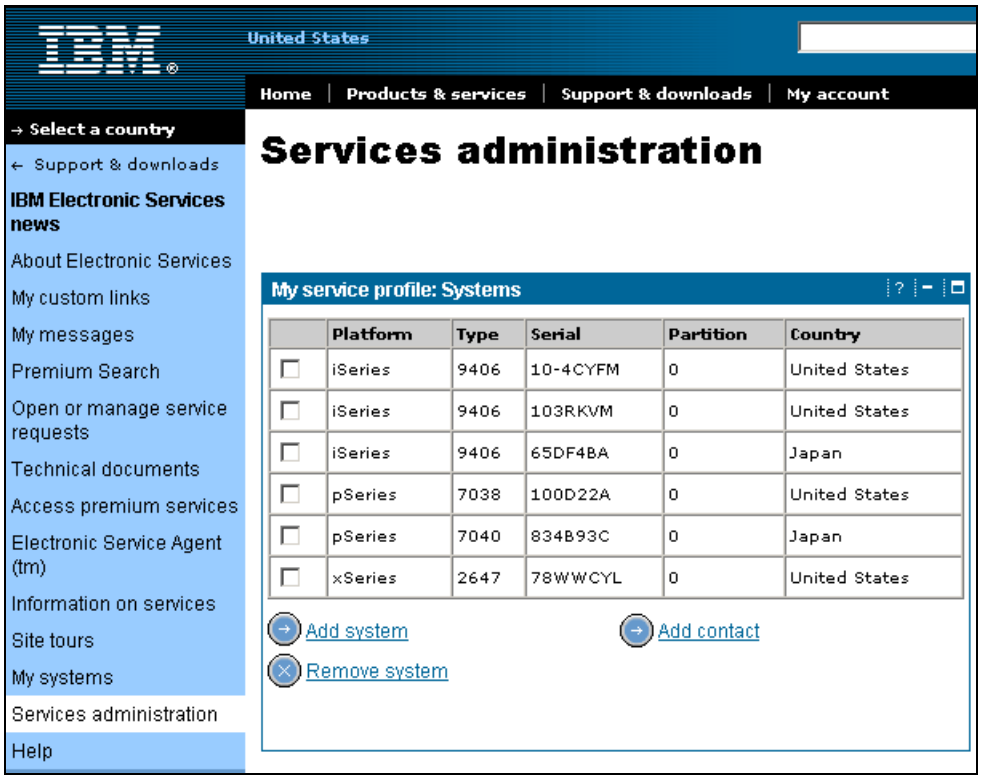

Figure 3-11 Services administration: My system profile

To add a system to your profile, follow these steps:

1. Click the **Add system** link.
2. On the page that opens, complete the fields and click **Submit**.
3. The administrator for that machine receives the request and approves it as appropriate.
4. The requestor sees the new machine serial number on their profile list after the administrator approves it.

3.3 Premium Search

Premium Search uses the Service Agent inventory to filter the your search with what is installed on your systems. It enables you to search the IBM technical support knowledgebase that provides Informational APARs, FAQs, white papers, and many more document types.

Figure 3-12 and Figure 3-13 show the fields where you enter the search keyword or keywords and select the system from the table. You can filter the search by specifying fixes that are on the system, products that are installed, and operating system type and level. The filters vary by platform.

If you search for a fix to an IBM defect, you can exclude all the fixes that you already have installed, greatly reducing the number of irrelevant hits. You can also include a product from the list of products installed on the system. The search includes the component ID or FMID (zSeries) for the product selected.

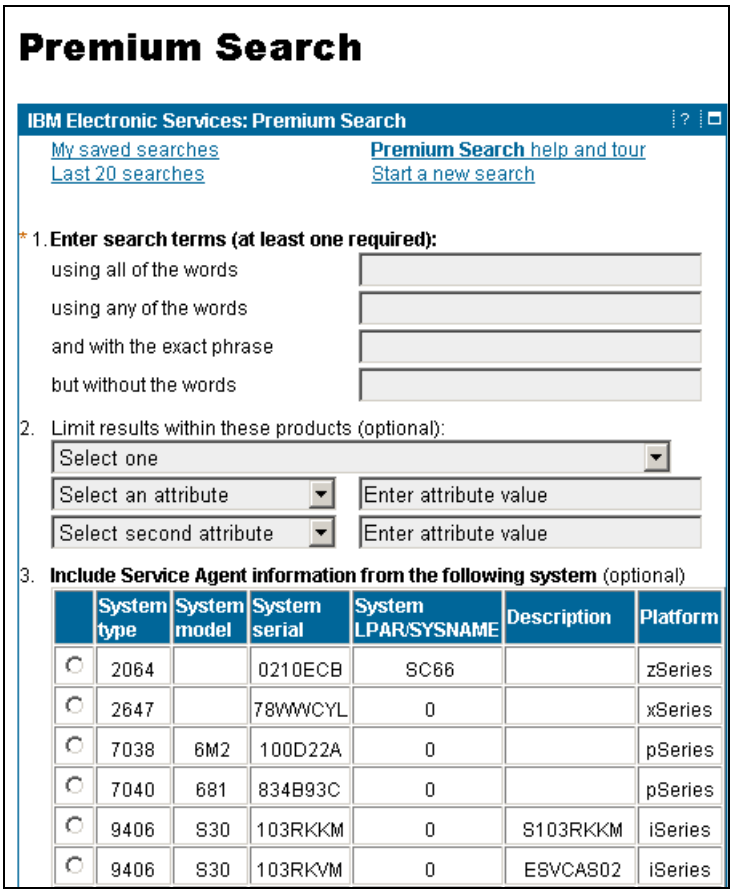

Figure 3-12 Premium Search: Top of form

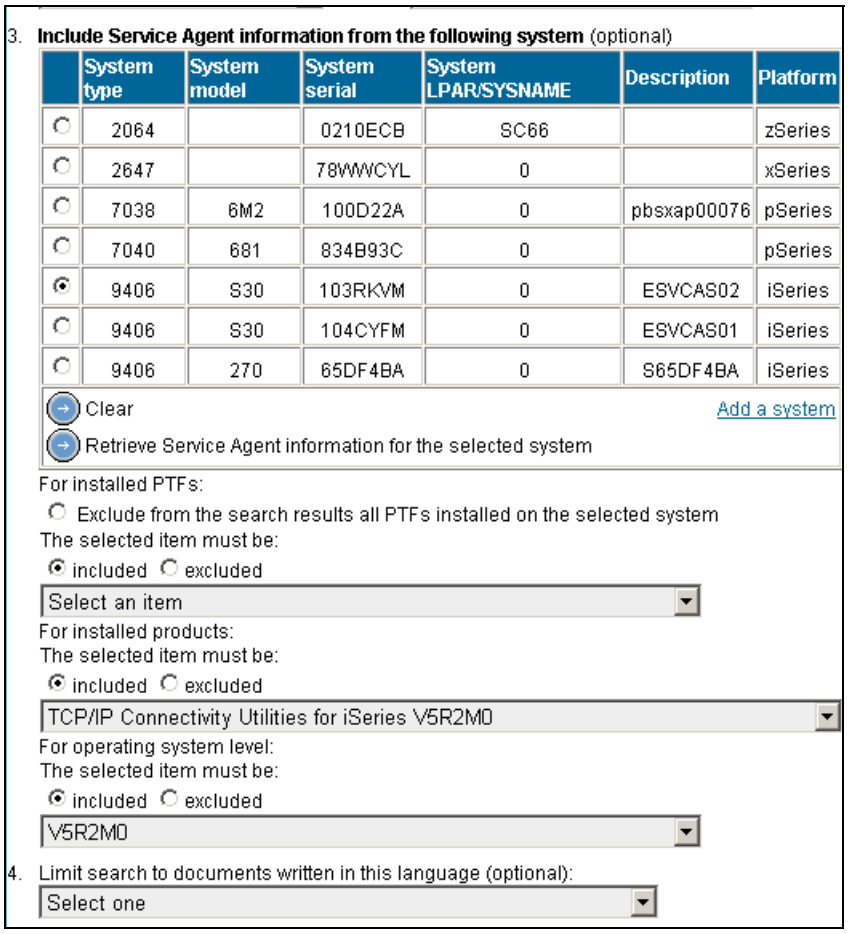

Figure 3-13 Premium Search: Service Agent selection fields

You complete the search form and click **Submit**.

The search engine searches for all relevant results. The following figures demonstrate the effectiveness of using Service Agent information in Premium Search queries. The search term is “Java virtual machine” on a 9406.

Figure 3-14 shows the results (1472 items) of not using filtering on the search for Service Agent information.

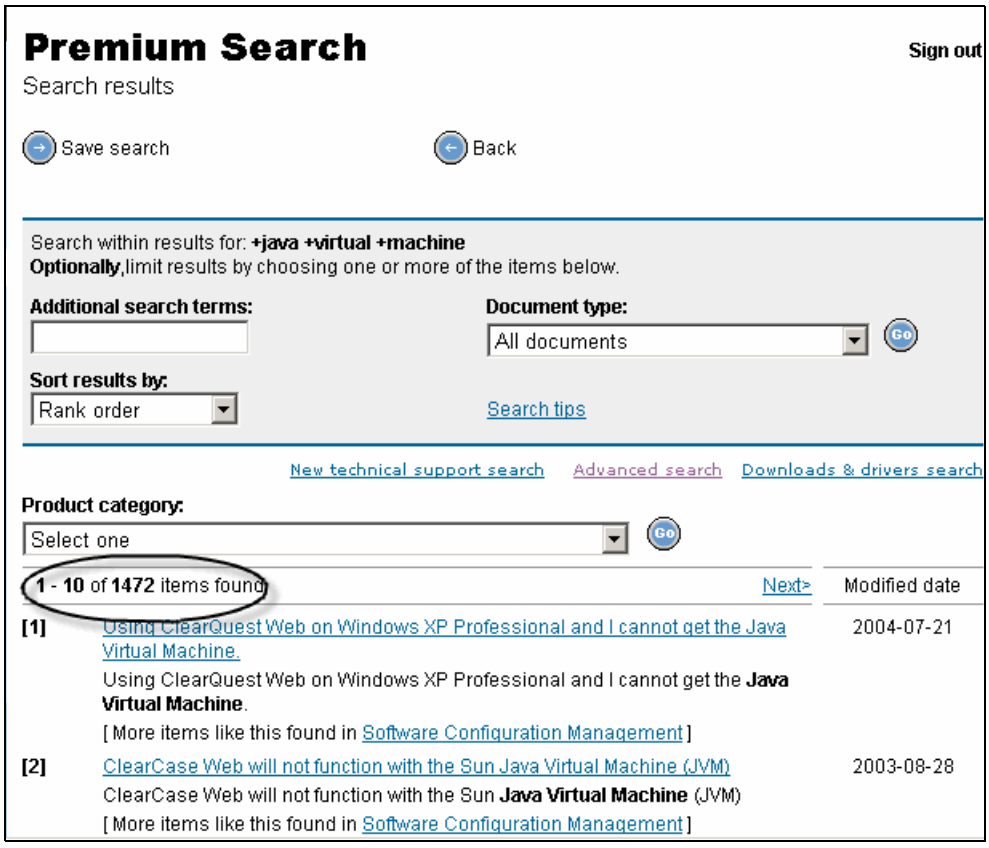

Figure 3-14 Premium Search: Results without providing any filter for the search

Figure 3-15 shows the results of using the operating system level to filter the search. This search decreased the results of the previous search from 1472 items to 72 items.

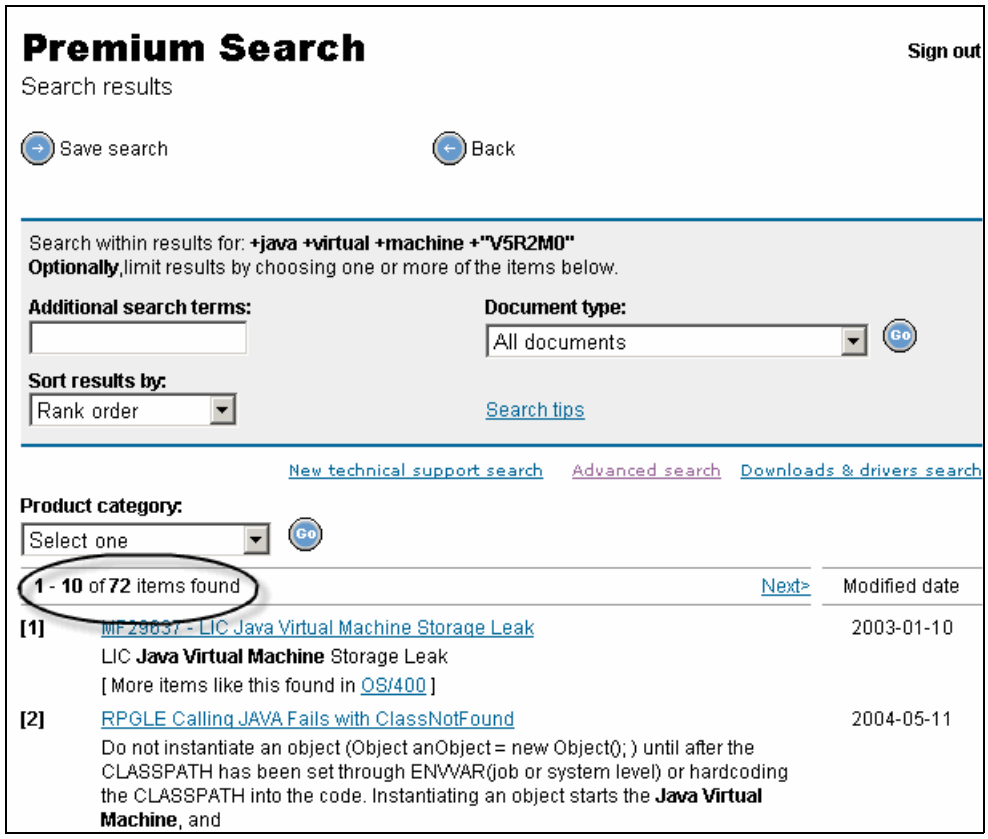

Figure 3-15 Premium Search: Results of using operating system as a search filter

Figure 3-16 shows the results of using the operating system level and the Java™ Developer Kit level to filter the search. In this case, the search found 28 items compared to 1472 items in the original search without any filters.

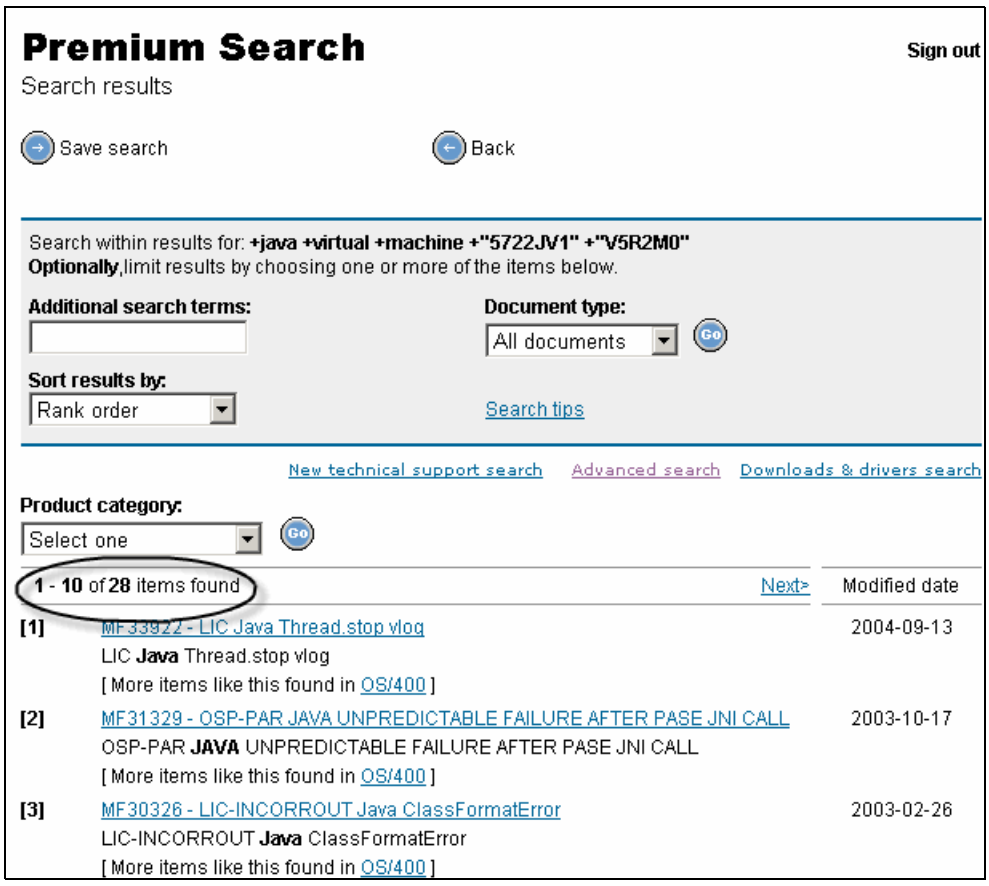

Figure 3-16 Premium Search: Results using operating system and Java Developer Kit levels

3.4 Submit a Service Request

The Submit a Service Request category on the Electronic Services Web site enables you to place and monitor hardware and software service requests electronically. Each country (region) has a list of selections for both hardware and software. Self-guided tours show samples of each type of service request.

Figure 3-17 shows the selections that are available for the Australian version under both hardware and software. These lists are based on availability in individual countries (regions).

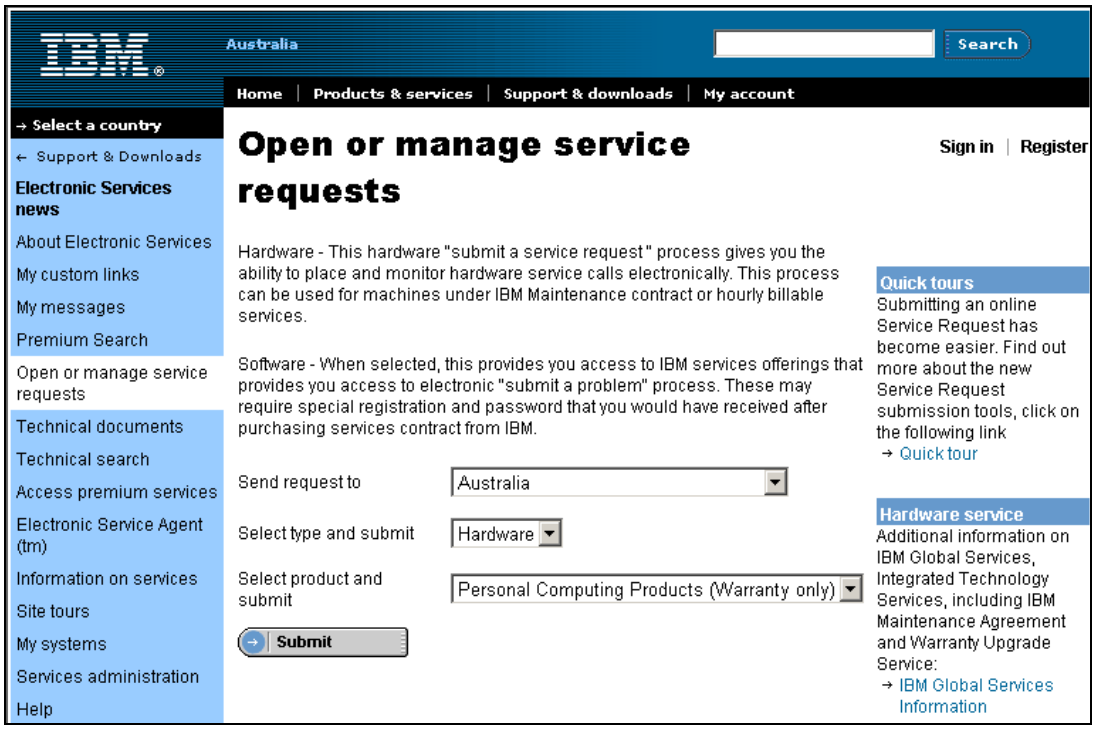

Figure 3-17 Electronic Services Web site: Service Request view

3.5 Customized view of Electronic Services Web site

The average number of links per country (region) on this Web site is over 100. To simplify your visits to the Web site, you can customize your view, by building a profile associated with your IBM ID. With your own profile, you limit the links to those that relate to the platform or platforms that you have selected.

Figure 3-18 shows the selections used to create your profile.

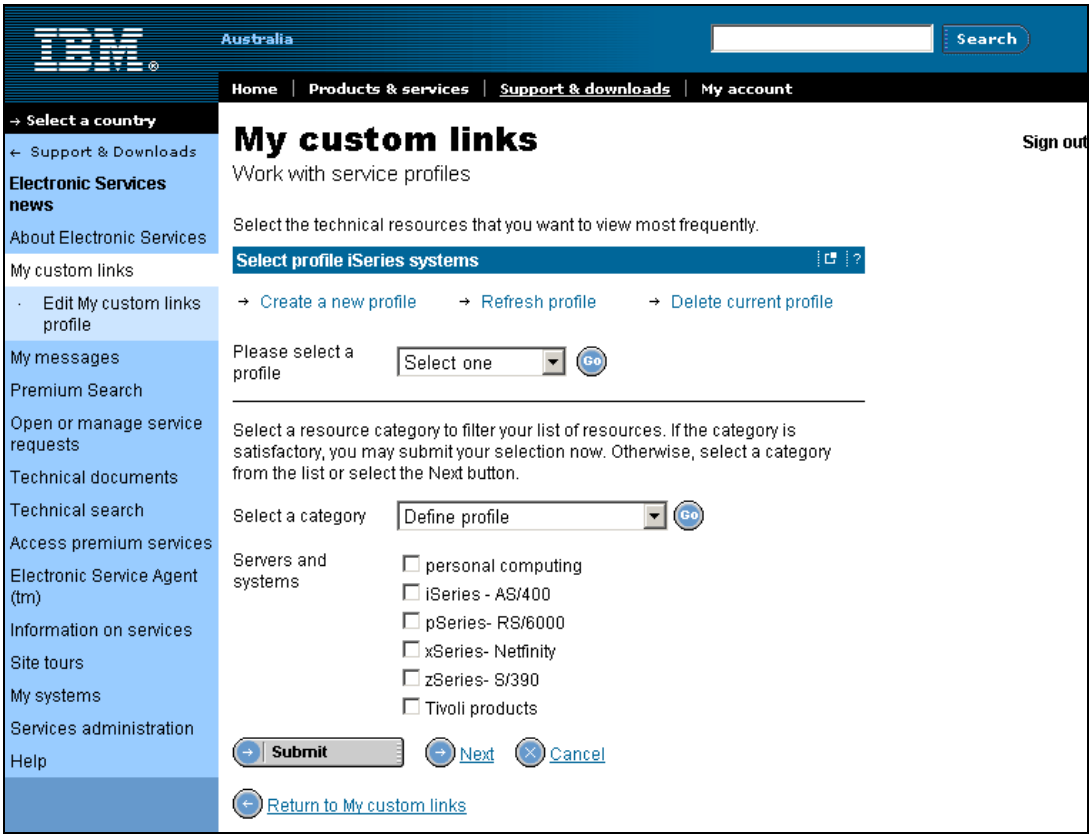

Figure 3-18 Electronic Services Web site: My Custom Links

To create a profile, follow these steps:

1. From the Custom resource categories, select one or more categories.
2. All technical resources that are included in the chosen categories are automatically preselected. Click **Next**.
3. You see more technical resources for more categories. Click **Next**.
4. You now see additional categories. Select any additional technical resources to add to those that you may have preselected using Custom resource categories. Click **Submit**. This saves the selections for the profile.

3.6 Statement of Direction

The future direction of the IBM Electronic Services Web site is multilayered to:

- Integrate advances made by Electronic Service Agents for existing platforms on the Web site
- Integrate new Electronic Service Agents into Web accessible tools on the Web site
- Continue leadership in delivering IBM support capabilities via the Internet to IBM Clients

We expect to provide these enhancements through:

- Continued integration of Service Agent information into existing Web tools
  - Deeper integration of Service Agent information into search, service request, and download tools
  - Higher level of automatic personalization on the Web site
- New tools or function that use Service Agent information on the Web site
- Web access for new offerings that integrate Service Agent information
- Deeper integration into the overall IBM infrastructure by providing the entitled support element of IBM Web support
- Functions that increase your ability to access self help and assisted support
- Functions that increase the ability for IBM to provide reactive and proactive support
- Capabilities to support non-IBM products as requested, for both hardware and software
- The addition of more countries (regions) to the Electronic Services Web site
- The addition of more country (region) unique information, offerings, or messages
- Continued national language support presented on the site

Note: The information that is released represents the current intent of IBM. It represents goals and objectives only. All statements regarding the plans, directions, and intent of IBM are subject to change or withdrawal without notice

4

On demand use of Service Agent information

This chapter discusses the on demand use of Service Agent information by IBM organizations and processes. The benefit to your company is to have Service Agent information available 24x7 to support your operations, your staff, the IBM Support community, and future planning. These organizations and processes follow IBM security and privacy guidelines.

The increased use or wider use of Service Agent information is also based on IBM Client suggestions of where this information can help you accomplish your work with greater ease and efficiency. This chapter reviews the communities that have an interest in viewing or using the Service Agent information, rather than the actual Web sites or services that use Service Agent information.

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4.1 Communities

We loosely define the term *communities* to encompass IBM Clients, IBM Support, and IBM Administration and Sales. These are general groups, for example, of people that can use Electronic Service Agent or one of the solutions that uses the information. These communities are not intended to exclude anyone.

4.1.1 Client community

The client community can use Service Agent information in several ways, by many different organizations within their company. For example, this community can use the Electronic Services Web site to view machine information, to use Premium Search to match your query for machine specific results, to view Performance Management reports, and to react to business needs through Capacity Upgrade on Demand (CUoD).

4.1.2 IBM Support community

The IBM Support community is composed of representatives in the technical support centers, telecenters, field technicians, technical account team, and brand specialists. These IBM resources have authorized access to Service Agent machine information via an intranet Web site. The information is presented in reports similar to those viewed on the Electronic Services Web site, under the My systems category.

The machine information is a valuable tool to all of these organizations in that it:

- Aids the IBM representative in prompt and effective problem determination
- Provides reference information for assessment and preventative analysis
- Relieves the client staff of having to know the system infrastructure on every machine, every shift, and in every location
- Provides a wider knowledge for the brand engineering and research teams
- Assists the local technical account team in proactive planning

4.1.3 IBM Administration and Sales community

Electronic Service Agent transmits the machine inventory to the IBM databases that are used for future orders. The information is available for use in sales transactions using the eConfigurator tool. When the sales representative knows what is on your machine today, they are better able to recommend or coordinate additional features. Account administrators are able to answer questions more efficiently with information provided by Service Agent information.

4.2 Places to find Service Agent information at work

Service Agent information is found at many levels inside IBM, helping to improve your experience and provide the best support possible. The locations or solutions listed are the current locations. However, solutions and locations are expanding each month, so be sure to check with your account team.

4.2.1 Viewing Service Agent information

The My systems category in Electronic Services is where you can view your machine inventory that is collected and transmitted by Electronic Service Agent. The same information is visible to the IBM Support community for use in problem determination.

The reports are available for sorting within columns and printing or downloading in several formats. The reports are categorized to provide similarity between platforms, although they may vary as necessary based on the terminology and capability of the platform.

To begin, you select the machines that you want to include in the reports. Figure 4-1 shows an example of the first page. It displays the machine serial numbers that are authorized for the IBM ID used in the session. The table includes a column with the date of last inventory transmission to IBM, so you know how current the information is that is provided in the reports.

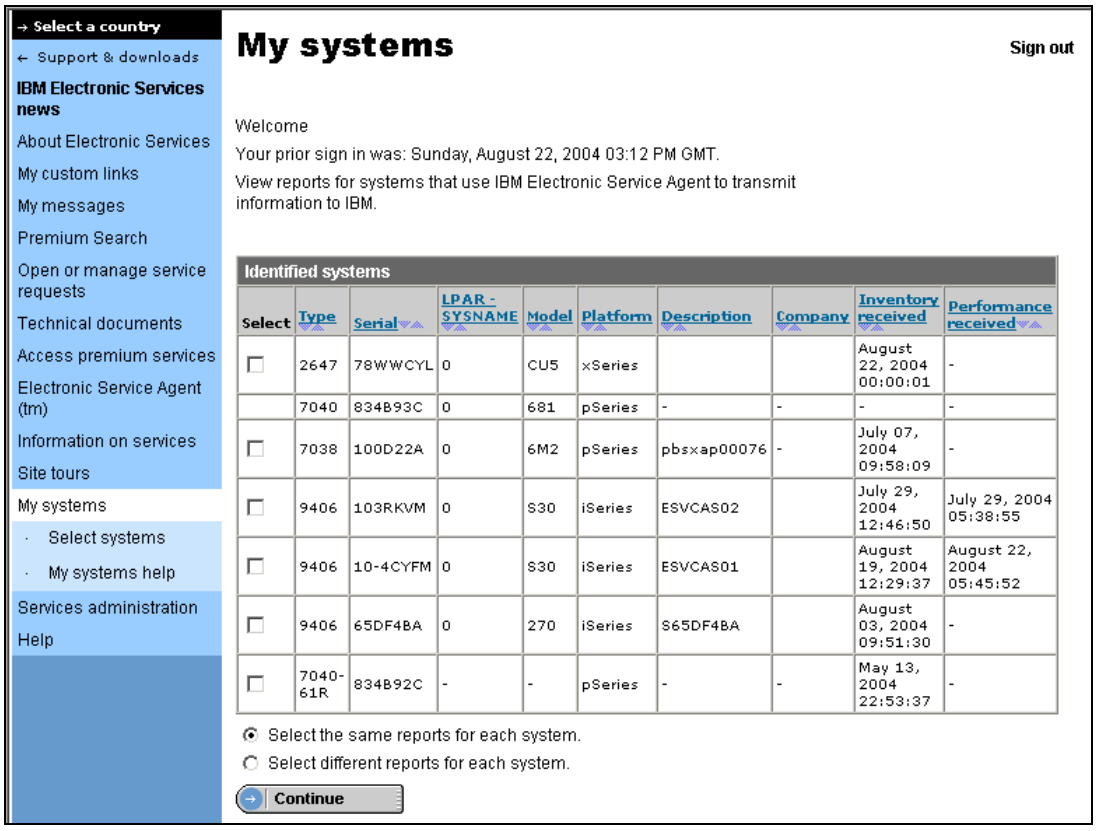

Figure 4-1 My systems: Sample table of machine serial numbers

Figure 4-2 shows the report selection page that is available for a 9406 machine type. The report fields may vary by platform.

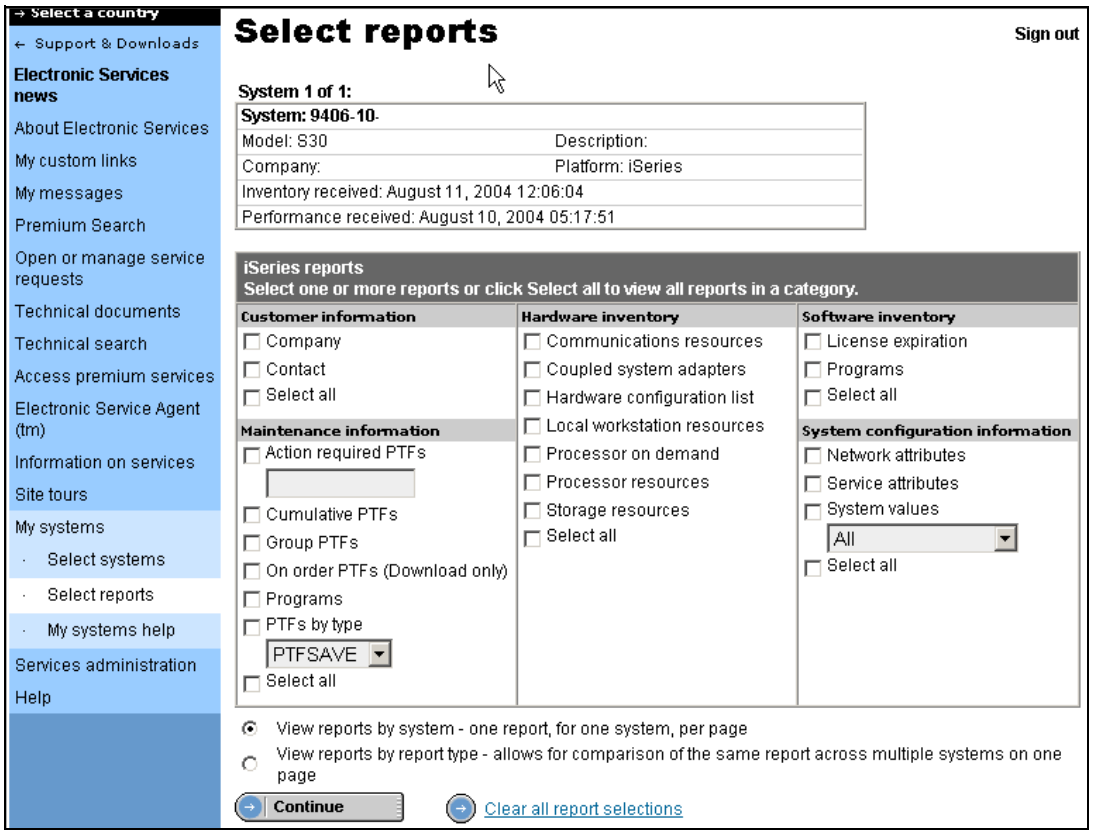

Figure 4-2 My systems: Report selection view

The report sample in Figure 4-3 shows the Storage resources list for the system that is selected.

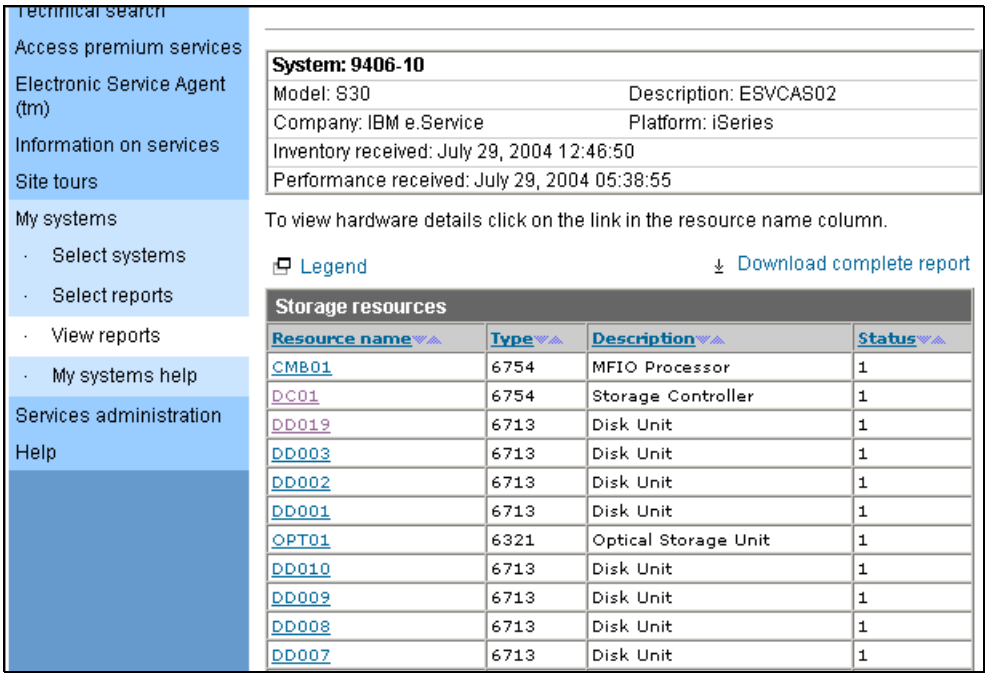

Figure 4-3 My systems: Storage resources report

Figure 4-4 shows one of the Storage resources expanded to show detailed information.

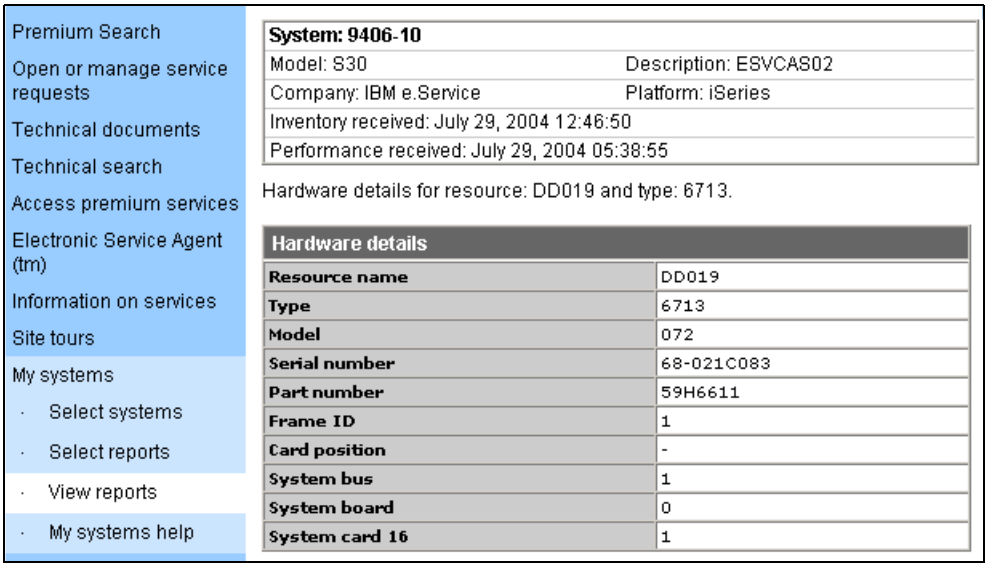

Figure 4-4 My systems: Storage resource expanded

4.2.2 Premium Search

Premium Search uses the Service Agent inventory to filter your search with what is installed on your systems. It enables you to search the IBM technical support knowledgebase that provides Informational APARs, FAQs, white papers, and many more document types.

Figure 4-5 and Figure 4-6 show the fields where you enter the search keyword or keywords and select the system from the table. You can filter the search by specifying fixes that are on the system, products that are installed, and operating system type and level. The filters vary by platform.

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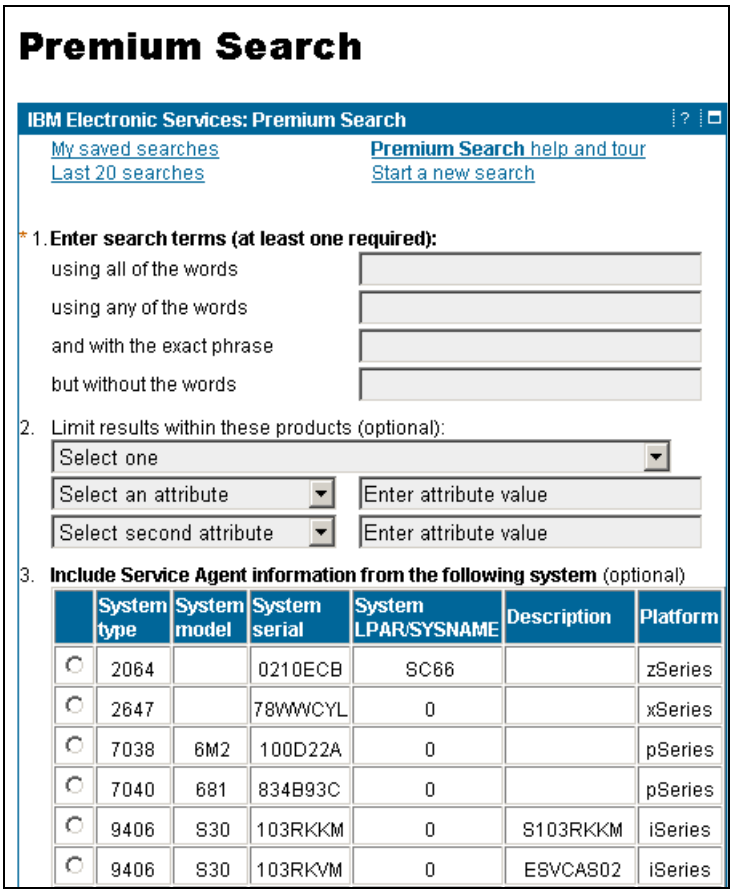

Figure 4-5 Premium Search: Top of form

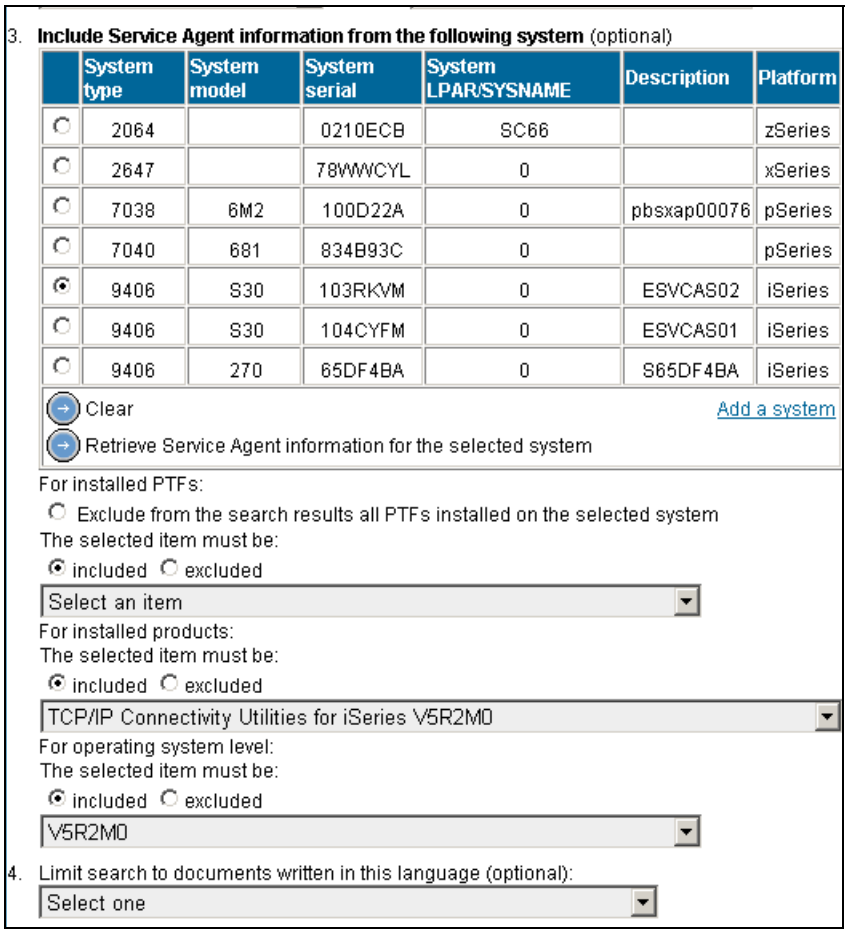

Figure 4-6 Premium Search: Service Agent selection fields

You complete the search form and click **Submit**.

The search engine searches for all relevant results. The following figures demonstrate the effectiveness of using Service Agent information in Premium Search queries. The search term is “Java virtual machine” on a 9406.

Figure 4-7 shows the results (1472 items) of not using filtering on the search for Service Agent information.

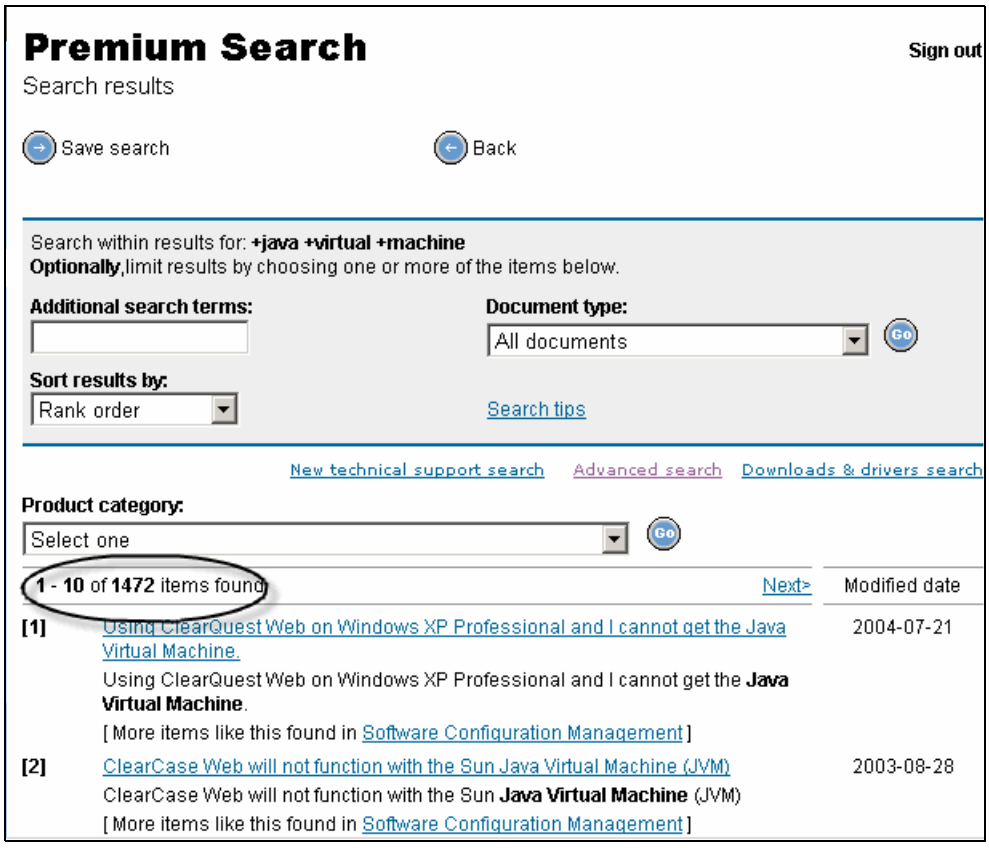

Figure 4-7 Premium Search: Results without providing any filter for the search

Figure 4-8 shows the results of using the operating system level to filter the search. This search decreased the results of the previous search from 1472 items to 72 items.

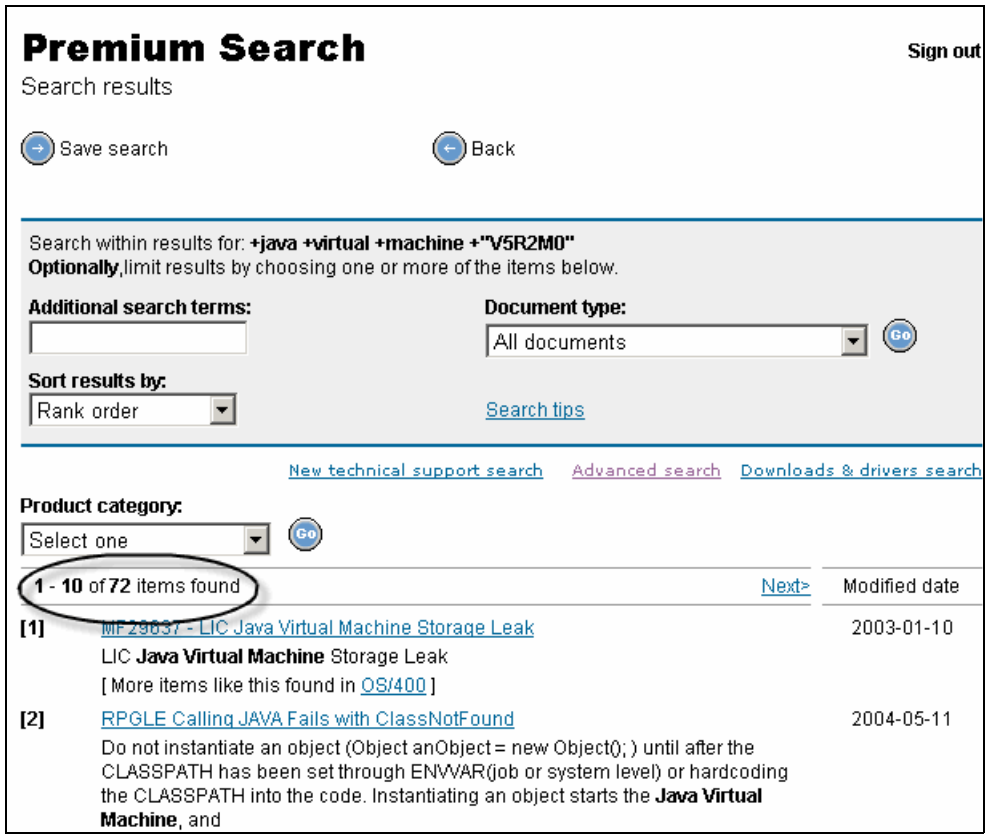

Figure 4-8 Premium Search: Results of using operating system as a search filter

Figure 4-9 shows the results of using the operating system level and the Java Developer Kit level to filter the search. In this case, the search found 28 items compared to 1472 items in the original search without any filters.

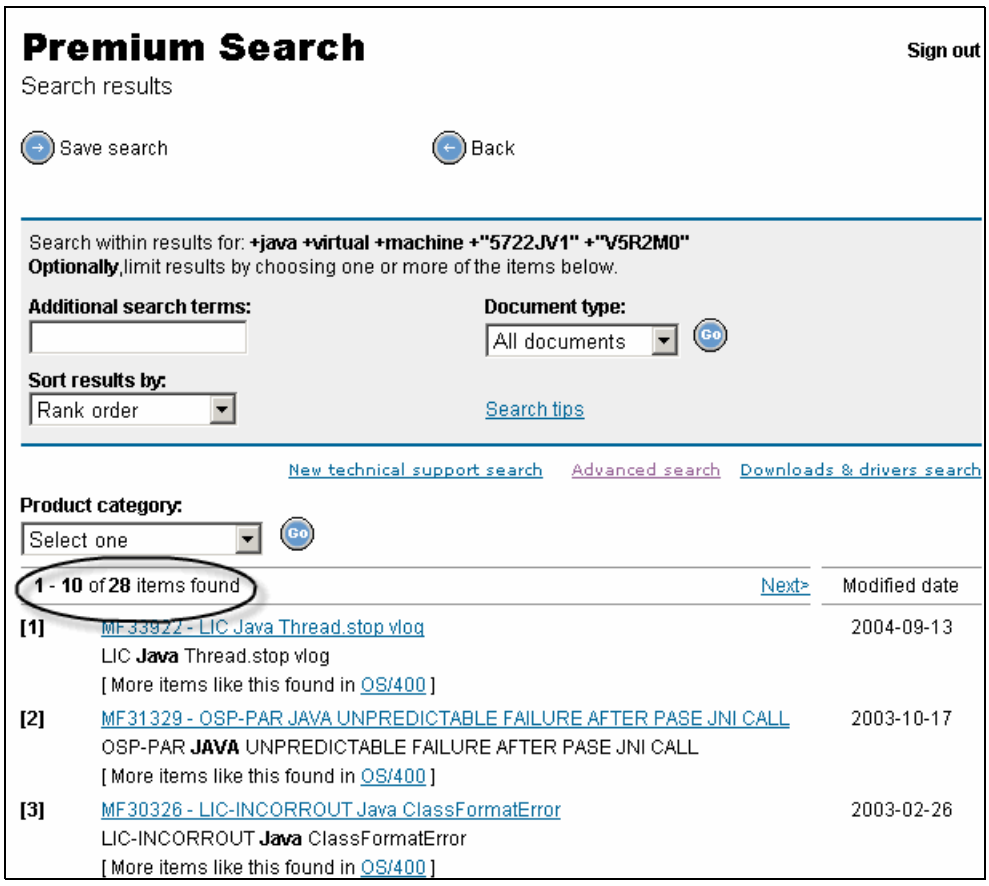

Figure 4-9 Premium Search: Results using operating system and Java Developer Kit levels

4.2.3 Service Request Management

The solution of Service Requests or PMRs is a challenge to both you and to IBM. We both want to obtain the most current information to help find the best solution to a problem, in the most prompt manner.

When the Service Agent information and the Service Request record are accessible with a few clicks on a Web site, the common knowledge of the client's system, both hardware and software, is available to the IBM Support community and representatives of your company. The process of returning your environment back to a normal state begins with more knowledge than in previous years.

On the Electronic Services Web site, you submit your software or hardware service requests. You can submit or view your hardware service requests by machine type serial number, using the Electronic Service Call (ESC+) Web tool. Figure 4-10 shows the first page of the ESC+ tool. The left side is where you select the task that you want to perform.

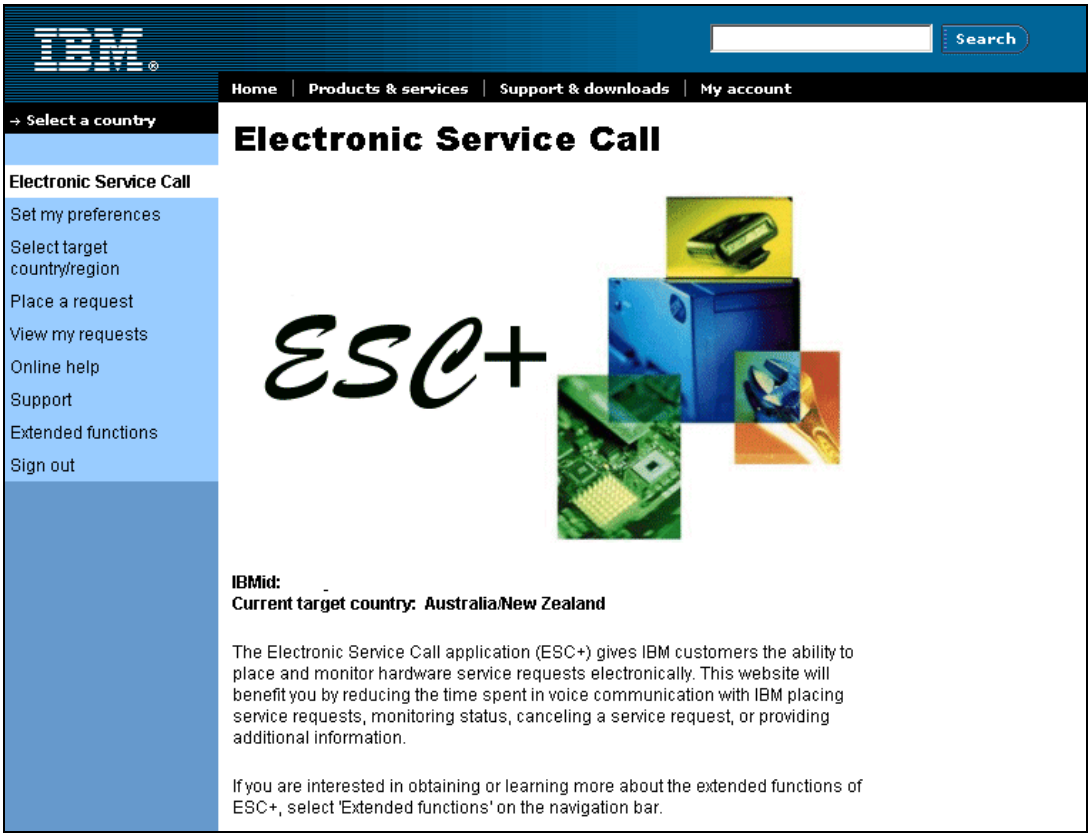

Figure 4-10 First page of the ESC+ Web tool

The service requests and PMRs listed and managed in ESC+ can be sourced from Service Agent submission, voice submission, and from ESC+ Web submission, with appropriate contracts. Figure 4-11 shows a sample page from ESC+.

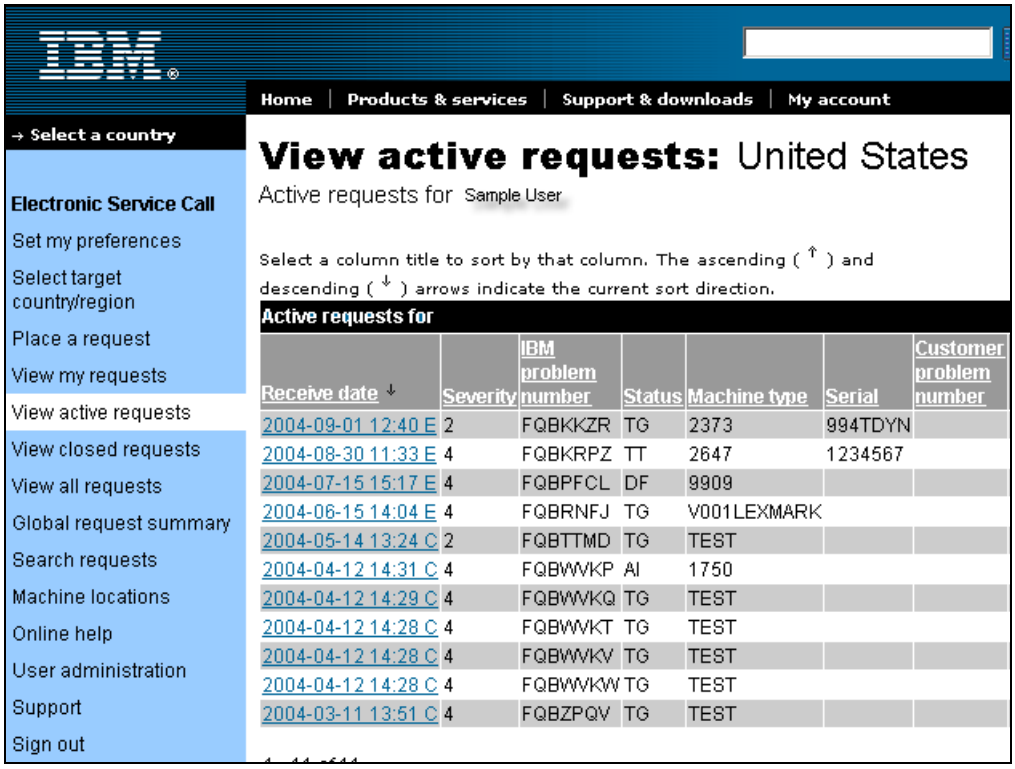

Figure 4-11 ESC+ Web tool sample list of service requests

For more information about service requests, tours of several of the submission tools, and other options that are available, go to the Electronic Services Web site at:

http://www.ibm.com/support/electronic

4.2.4 Performance Management Reports

Performance Management automates many of the functions that are associated with capacity planning and performance analysis. It's simple. You activate Service Agent and it automatically collects and transmits system utilization information. This information can include CPU disk utilization, response time, throughput, and application and user usage.

The result is the capacity planning and performance analysis reports and graphs that provide a crisp picture of your current system operating efficiencies. Based on current trends, these reports let you know when to consider rectifying an approaching capacity planning problem. Performance Management puts you in control, as opposed to your system being in control of you. The reports may be free or fee-based depending on your platform. The iSeries, pSeries, and zSeries platforms offer Performance Management.

To learn more about Performance Management, go to:

http://perf.services.ibm.com/pmweb/

PM iSeries (formerly PM/400)

IBM Operational Support Services for @server iSeries performance management (PM iSeries) is a system management tool. It helps to ensure the most from a system by measuring growth and performance. These measurement allow IBM Clients, IBM Business Partners, or IBM to more easily plan for future system growth and identify potential resource constraints.

If the system processor is under warranty or if the system processor is covered by an IBM Hardware Maintenance Agreement, you are entitled to receive the PM iSeries Management Summary view at no additional charge. Additionally, at no extra charge, a Letter of Notification is sent whenever the system is predicted to reach a performance threshold within six months.

To support the information on the Management Summary view, more detailed reports and graphs are available for a fee. These different views offer a broad perspective of the system's performance, which helps to address a wide range of system management issues. The information includes CPU and disk utilization, response time, throughput, tuning information, application information, growth trends, etc. Figure 4-12 shows a sample of the fee reports.

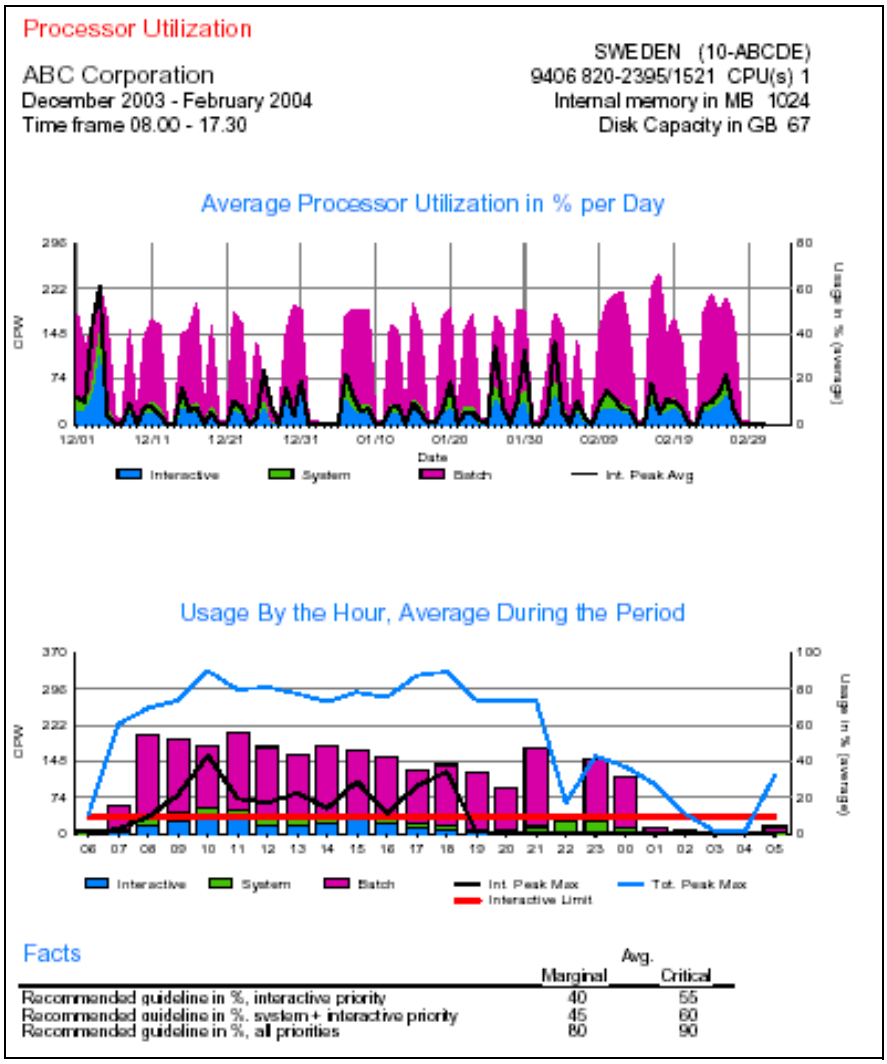

Figure 4-12 iSeries Performance Management sample report

PM pSeries (formerly PM/AIX)

IBM Operational Support Services for @server pSeries performance management (PM pSeries) is a dynamic service that automates the collection and interpretation of measurements regarding system resources. With this service, you can access analysis reports and graphs through the Internet to help identify areas of contention for resources and obtain input for a capacity planning.

The Executive Summary service is a basic performance management process that is available at no-charge and is easy to implement and use. It provides capacity trend information and performance management parameters for pSeries AIX-based servers.

The detailed, fee reports provide current information about resource contention, resources approaching maximum capacity, file system utilization, CPU, memory, and direct access storage device (DASD) utilization. The reports include availability information such as uptime, percent available, usage trends and outage information. This service further allows you to tailor the reports and graphs to meet your business needs.

The sample report in Figure 4-13 is from the Executive Summary service.

Server Trend Report

Enterprise: eService | Customer: LesMis | Sub Client ID 1: All
OS: AIX | Shift: All | ◀ February, 2003

Server	Processor Util						Mem Average %						Hard Disk (MB) % Used					
	Sep 2002	Oct 2002	Nov 2002	Dec 2002	Jan 2003	Feb 2003	Sep 2002	Oct 2002	Nov 2002	Dec 2002	Jan 2003	Feb 2003	Sep 2002	Oct 2002	Nov 2002	Dec 2002	Jan 2003	Feb 2003
Cosette	81.60%	61.44%	60.85%	48.69%	41.58%	40.85%	-	-	-	-	-	-	78.90%	83.22%	91.86%	91.63%	91.59%	91.87%
Eponine	3.92%	35.33%	63.04%	73.94%	71.01%	1.39%	-	-	-	-	-	-	60.63%	61.54%	63.21%	64.13%	64.16%	64.16%
Fantine	-	1.25%	0.44%	0.25%	0.19%	0.19%	-	92.49%	89.34%	92.98%	91.45%	94.56%	-	55.95%	55.95%	57.02%	58.19%	58.19%
Gavroche	2.13%	10.00%	30.88%	31.39%	32.48%	32.70%	60.34%	56.58%	65.23%	60.99%	63.69%	58.40%	53.57%	58.16%	73.23%	73.23%	73.25%	73.29%
Javed	53.19%	67.44%	75.45%	83.45%	85.45%	99.35%	87.83%	82.73%	80.12%	78.23%	74.76%	72.36%	99.16%	35.94%	35.94%	35.94%	35.94%	39.57%
Marius	0.31%	1.98%	55.28%	46.54%	43.96%	71.78%	78.23%	77.76%	77.34%	77.12%	76.34%	77.23%	41.11%	21.81%	98.30%	98.33%	98.29%	98.39%
Valjean	47.94%	36.74%	20.60%	17.56%	18.74%	22.85%	67.75%	68.78%	67.22%	78.09%	65.21%	76.34%	87.64%	92.80%	96.93%	96.93%	96.93%	96.93%

Total Number Of Rows: 7

Figure 4-13 pSeries Performance Management: Executive Summary report

PM zSeries (formerly PM S/390)

IBM Operational Support Services for @server zSeries performance management (PM zSeries) is a dynamic service that automates the collection and interpretation of the z/OS or OS/390® measurements regarding system resources. This information can include CPU disk utilization, response time, throughput, application, and user usage.

Information is gathered and sent to IBM for analysis. An IBM central site processes the information and produces a series of reports and graphs that show a snapshot of periodical system activities. The client can access analysis reports and graphs through the Internet to help identify areas of contention for resources and obtain input for capacity planning.

This service provides information about the utilization of the major system resources and identifies areas of contention for these resources. The summary statistics provide input to the capacity planning process.

There are two parts to this service. The first part is the collection of measurement data on your OS/390 or z/OS system. The second part is the storage of the data at the IBM site and the ability for you to view this data as a series of charts and tables that describe how the system is performing.

Figure 4-14 shows a sample System Health Management Summary report.

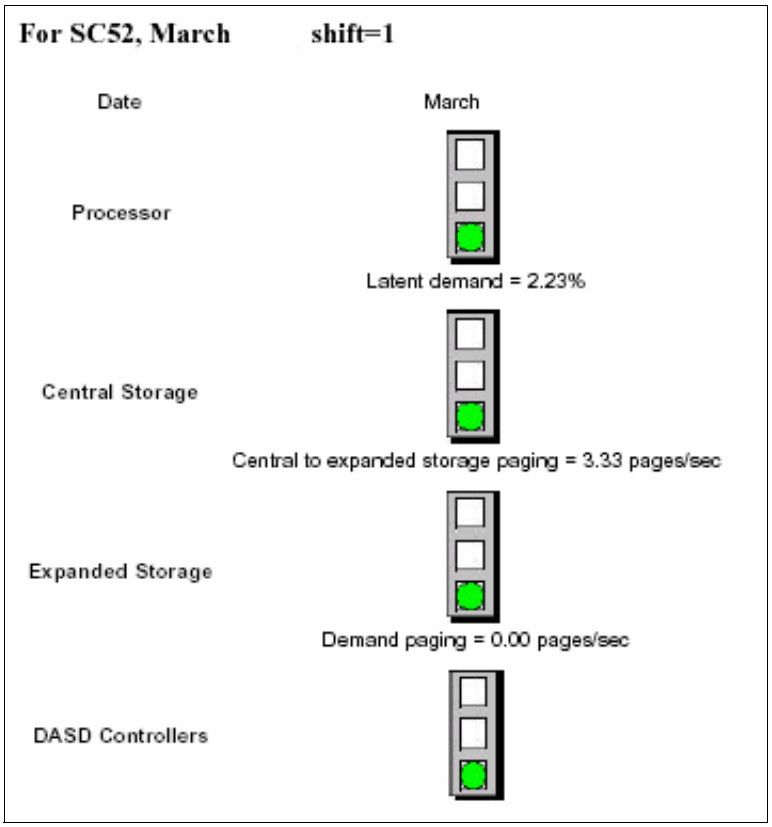

Figure 4-14 zSeries Performance Management: Sample System Health Management Summary

4.2.5 Capacity on Demand

Capacity on Demand (CoD) encompasses all of the various capabilities provided that enable you to dynamically activate one or more processors on your IBM @server system as your business peaks dictate. You can activate inactive processors that are already installed on your server on a temporary or permanent basis.

Electronic Service Agent provides the vital product data (VPD) from your server that helps to create the activation code necessary to activate inactive processors on your server. It also provides continuing VPD information.

Several options are available within these offerings and each varies by platform:

- **Capacity Upgrade on Demand**: Allows you to install inactive CUoD processors and memory at an extremely attractive price and then bring new capacity online quickly and easily.
- **On/Off CoD**: Allows self-managed temporary activation of CUoD processor and memory resources. You can turn on and then turn off resources as needed. The system monitors the amount and duration of the activations and generates a usage report. Billing for the activations is based on the usage report.
- **Reserve CoD**: Allows you to have optimized, automatically managed temporary activation of CUoD processors. You purchase a block of 30 Processor Days of usage time and then assign inactive processors to the shared processor pool. The server then automatically manages the workload and only charges against the Processor Day account when the workload requires over 100% of the base (permanently activated) processing power.

- **Trial Capacity on Demand**: You can use it to meet an immediate need for additional resources or to give inactive processor and memory resources a test run. To enable a trial, the user must register the server at the CoD Web site and request an activation code. The user then uses the code to activate the trial on the registered server.
- **Capacity BackUp**: Provides emergency processing capacity for up to 30 days in the event that you lose capacity in part of your operation. It helps you recover by adding reserved capacity on a designated system. Capacity BackUp is intended for companies that require an off-site disaster recovery machine at an extremely affordable price. Using On/Off Capacity on Demand capabilities, Capacity BackUp offerings have a minimum set of inactive processors that can be used for any workload. They also have a large number of inactive processors that can be used at no charge in the event of a disaster.

4.3 Regional- and country-based services

Each country (region) may have offerings that combine the services of Service Agent with other IBM solutions or services. Speak with your account team about any country- or region-specific uses of Electronic Service Agent information.

4.4 Privacy of Service Agent information

The machine inventory information that is gathered from client systems is typically collected by speaking with clients during phone calls with the IBM Support Center, pre-sales specialists, administrative clerks, and other groups within IBM. These IBM groups have electronic access to the information so that they can prepare, perform advance problem determination, and more efficiently serve IBM Clients.

Note: In some IBM organizations, the representatives are not full-time IBM employees or may be vendors who are working under IBM direction and contract. These staff members are subject to same privacy and security guidelines as any IBM employee.

The inventory information includes:

- Your support contact information, including names, phone numbers, and e-mail addresses
- System utilization, performance, system failure logs, part feature codes, part number, part serial number, part locations, software inventory, operating system applications, program temporary fixes (PTFs), the maintenance level, and configuration values

Using platform-specific commands, authorized IBM employees can view all inventory information about the system.

Inventory information does not include:

- Collection or transmission of any of your company's financial, statistical, or personnel data
- Client information
- Your business plans

In addition, Service Agent may provide a "call home" mechanism for other IBM offerings that you may select in the future. The information collected by such offerings is covered in separate agreements, for example for Performance Management and Capacity Upgrade on Demand offerings.

5

Electronic Service Agent for iSeries

The IBM Electronic Service Agent for iSeries is automatically shipped with the iSeries server without additional charge. It is designed to monitor events and transmit system inventory information to IBM. Service Agent has been available on the iSeries platform since 1992 under the name Service Director and as Service Agent since 2000.

This chapter is written for IBM @server i5 and iSeries system administrators who are familiar with, or have a working knowledge of, an iSeries, OS/400, or IBM i5/OS system.

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5.1 Electronic Service Agent V5R3 for iSeries

Electronic Service Agent for iSeries is designed to reduce the downtime of IBM @server i5 and iSeries servers when a hardware problem occurs or is predicted to occur. Detected hardware failures are sent immediately to the IBM Support Center. The regular schedule of collecting machine inventory information (also known as *service information* on this platform) enables support representatives or representatives of your organization to quickly confirm the machine's configuration.

Electronic Service Agent V5R3 is integrated into the base i5/OS V5R3 operating system. It is no longer a separately installed licensed program offering (LPO), which makes the installation and activation easy tasks. This version is enabled on:

- Upgrades on iSeries hardware
- New @server i5 hardware
- Mixed partition environments for either hardware group

Service Agent V5R3 is included in the base i5/OS V5R3 operating system (5722-SS1). It includes the following features:

- Secure Internet access to IBM via Hypertext Transfer Protocol Secure (HTTPS)
- Access to IBM through an authenticating proxy
- Easy configuration via wizards

5.1.1 Overview of Service Agent on iSeries

Automatic submission of hardware problems is reported via two paths, depending on your hardware environment:

- On AS/400 hardware, Service Agent detects hardware problems and submits it directly to IBM.
- On @server i5 hardware, Service Agent for iSeries detects hardware problems on i5/OS partitions and reports the problem to IBM. If the hardware is not on an i5/OS partition, the Hardware Management Console (HMC) Service Agent reports the hardware problem to IBM.

The machine inventory collection function of Service Agent for iSeries collects system information about memory, hard disk drives or RAID drives, Peripheral Component Interconnect (PCI) adapters and communications information. You can view Service Agent Inventory at the following Web site, using your IBM ID as authentication:

`https://www.ibm.com/support/electronic`

Figure 5-1 shows a multi-partition environment that is reporting to the HMC.

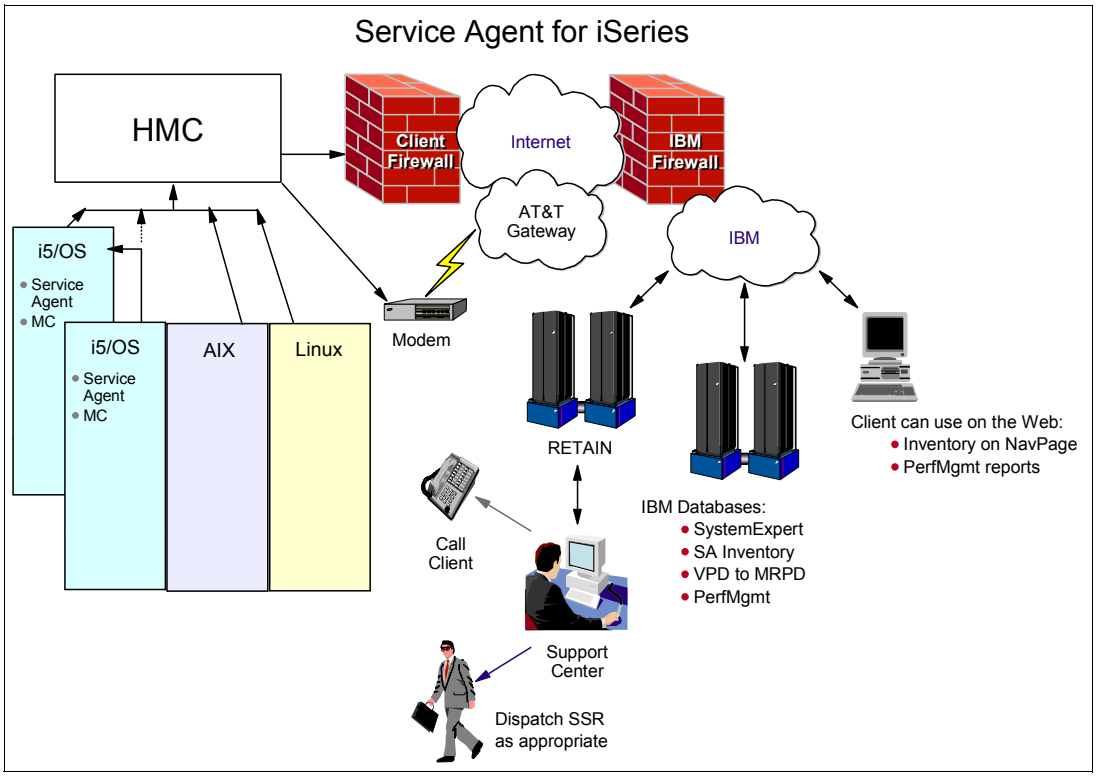

Figure 5-1 iSeries overview

5.1.2 iSeries hardware

When you activate Service Agent V5R3, your existing Service Agent settings from the previous release are migrated during activation. The activation steps are the same regardless of the iSeries hardware model.

Using V5R3, note the following considerations:

- When the Service Agent for iSeries activated on each OS/400 partition, reporting to a central partition:
  - Hardware problems are reported to the central partition.
  - System inventory is collected and transmitted to the central partition.
  - The central partition communicates to IBM.
- When Service Agent for iSeries is activated on each OS/400 partition, and each partition has connectivity to IBM:
  - Hardware problems are reported to IBM.
  - System inventory is collected and transmitted to IBM.
- If AIX or Linux is resident on other partitions, Service Agents for those operating systems are not operational in this environment.

5.1.3 @server i5 hardware

In this environment, Service Agent connects to IBM by means of the HMC modem, partition modem, or a network. Note the following considerations:

- When Service Agent for iSeries is applied to the i5/OS partition:
  - Hardware problems are reported to IBM through various connections.
  - System inventory is collected and transmitted to IBM through various connections.
- When you have Linux or AIX partitions:
  - Hardware problems are reported to the HMC.
  - The HMC transmits the information to IBM.
  - No system inventory is collected on these partitions.
  - Linux or AIX Service Agents are not operational in this environment.

5.2 Single machine environment

The Service Agent code is now included in i5/OS, the operating system upgrade to V5R3. No other code is needed to activate Service Agent.

In a single machine environment, the activation of Service Agent is done in a minimum number of tasks, if the system's communication path is already established. Figure 5-2 shows the general task flow of the Service Agent activation process in a single machine environment.

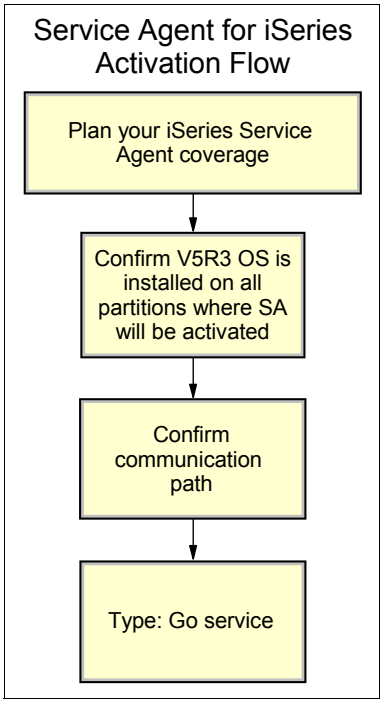

Figure 5-2 Service Agent activation flow on a single iSeries system

5.2.1 Planning

Planning your tasks and obtaining information that is confirmed in advance makes the activation steps go smoothly.

1. Plan the partitions that are monitored by Service Agent.
2. Install the following products on your system before you activate Service Agent:
   - 5722SS1 – Option 34 (OS/400 - Digital Certificate Manager)
   - 5722AC3 (Crypto Access Provider 128-bit)
   - 5722JC1 (IBM Toolbox for Java)
3. Determine your communication selection (Internet or modem) and ensure that it is operational.
4. Make sure that the person doing the activation has user a profile (other than QSECOFR) that has a *SECOFR user class and has system-defined special authorities.
5. Enter the following command:

   ```
   DSPSYSVAL QRETSVRSEC
   ```

6. Confirm that the setting is `1`.
7. Ensure that the latest recommended program temporary fixes (PTFs) are installed in i5/OS V5R3.

Note: No user activation password is required for V5R3. In previous releases, this password was required prior to activation.

5.2.2 Activation

To begin Service Agent activation, you enter the following command on a command line:

```
GO SERVICE
```

This is the same process on AS/400e, iSeries, and @server i5 hardware. For a single partition environment, you may see the following displays if default information is missing:

- If the Add Contact Information (ADDCNTINF) command is prompted, add or update the contact information for this system. Press Enter.
- If the Create Service Configuration (CRTSRVCFG) command is prompted, update any field that has the *SELECT value. Press Enter. An additional panel is displayed for each field parameter for which *SELECT was specified. When updated, press Enter.

After Service Agent detects that all fields are completed, you see the main menu as shown in Figure 5-3. The activation is complete.

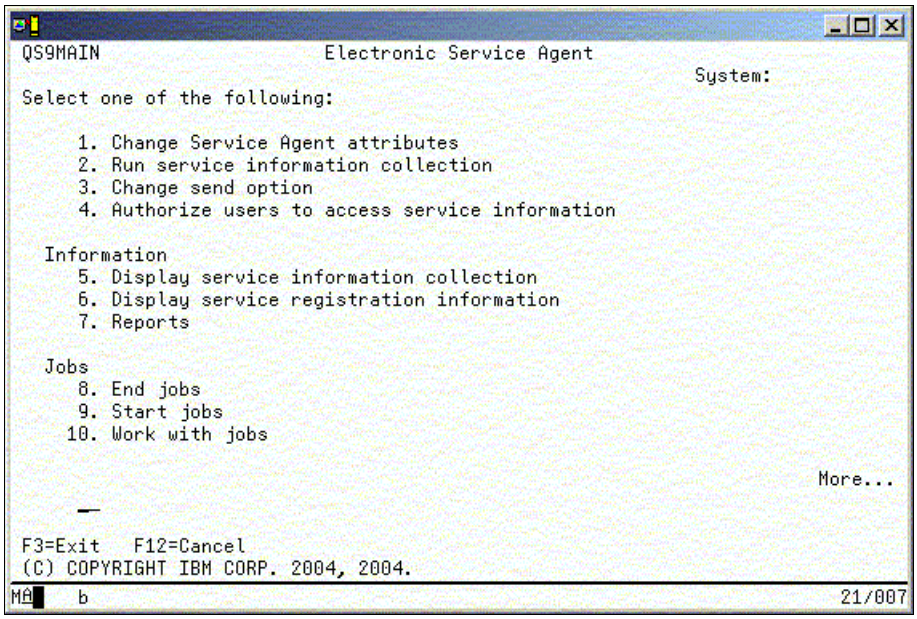

Figure 5-3 Service Agent for iSeries main menu (View 1 of 2)

Now you are ready to register your IBM ID to view your Service Agent inventory information on the Electronic Services Web site:

1. Select option 4 (Authorize users to access service information).
2. Complete the fields on the display and press Enter.

5.2.3 Maintenance

The Service Agent main menu is used for any updates to the configuration, to view reports or logs, to send test problems, and to send immediate inventory collections. There are two views of the menu as shown in Figure 5-3 and Figure 5-4. Select **More** on the first view to see the second view.

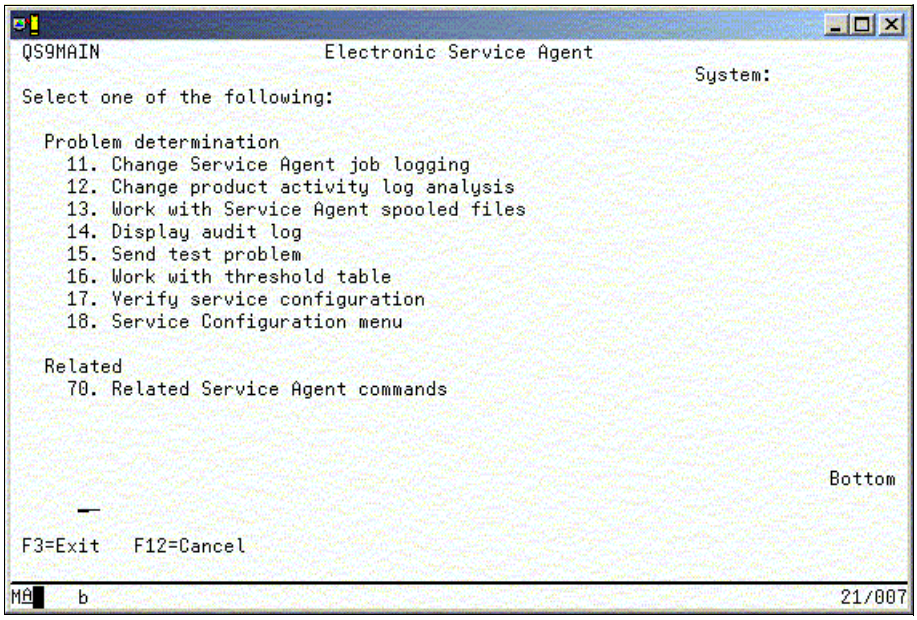

Figure 5-4 Electronic Service Agent for iSeries main menu (View 2 of 2)

5.2.4 Uninstall process

With the inclusion of Service Agent into the V5R3 operating system code, it is not possible to uninstall Service Agent. However, you can turn off Service Agent if necessary. You do this by selecting option 1 (Change Service Agent attributes) on the Service Agent main menu.

5.3 Network environment

In a network environment, the activation of Service Agent on iSeries involves the use of System Manager for iSeries (also known as SM/400), Management Central, and Service Agent. Figure 5-5 shows the general task flow.

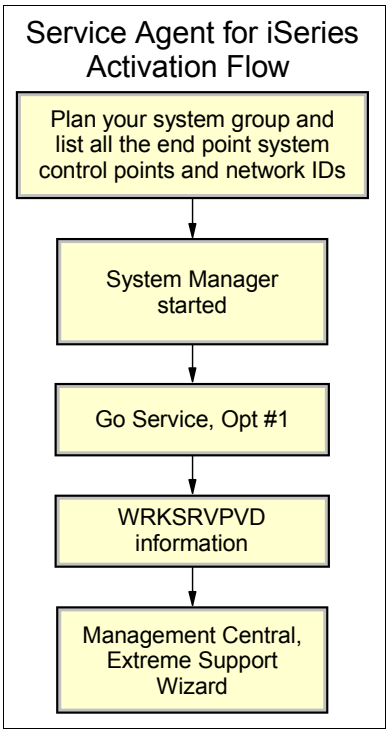

Figure 5-5 Service Agent activation flow in a networked iSeries environment

5.3.1 Planning

Planning your tasks and getting information confirmed in advance will make the activation steps go smoothly. Here are items to consider when planning the activation of Service Agent in an iSeries network environment:

- Ensure that the staff member who is performing the Service Agent activation has a user profile (other than QSECOFR) that has a *SECOFR user class and its system-defined special authorities.
- Ensure that the staff member who is performing the Management Central and System Manager tasks has the appropriate authority.
- List the control point and network IDs for the central system and end-point systems.
- Ensure that the central system has an operating system level that is equal to or higher than the end-point systems.
- In Management Central, define your system group or groups for Service Agent activation.
- Ensure that System Manager for iSeries is installed, configured, and started.
- Ensure that System Manager for iSeries has a central system defined.
- Ensure that for System Manager for iSeries, the central system is configured to accept problems from the end-point systems. You need the control point and network IDs to complete this task.

You may want to consult the following iSeries documents as you go through your planning activities:

- *System Manager Use,* SC41-5321
- *Installation, Configuration, and Start-Up for SystemView System Manager/400* iSeries Software Knowledge Base article

  http://www-912.ibm.com/8625680A007CA5C6/1AC66549A21402188625680B0002037E/6D56D4950C0145F0862566F800673B86

5.3.2 Activation

Automatic hardware problem reporting (or remotely reported service requests in SM/400 terms) and the inventory collection process are started in separate tasks in the network environment. We recommend that you activate hardware reporting first.

Automatic hardware problem reporting

On each end-point system, perform the following tasks:

1. On a command line, type:

   `GO SERVICE`

   Service Agent detects whether it is active. If it is not active, Service Agent activates itself as explained in 5.2.2, “Activation” on page 53. Respond to the prompts that might appear as explained in that section. When activation is complete, Service Agent displays the iSeries Service Agent main menu (Figure 5-3 on page 54).

   If Service Agent is already active when you type GO SERVICE in step 1, it displays the Service Agent main menu immediately.

2. On the Service Agent main menu (Figure 5-3 on page 54), select option `1` (Change Service Agent attributes).
3. In the Service Agent attributes display, verify that the Control point name and Network ID in the Report Problem to fields are correct. Service Agent is now ready to operate in your network environment.
4. To enable the endpoint system in your network to report problems to the central system, type the following command on a command line:

   `WRKSRVPD`

5. The Work with Service Providers display (Figure 5-6) opens. Type the Control point name and the Network ID of the central system. Press Enter.

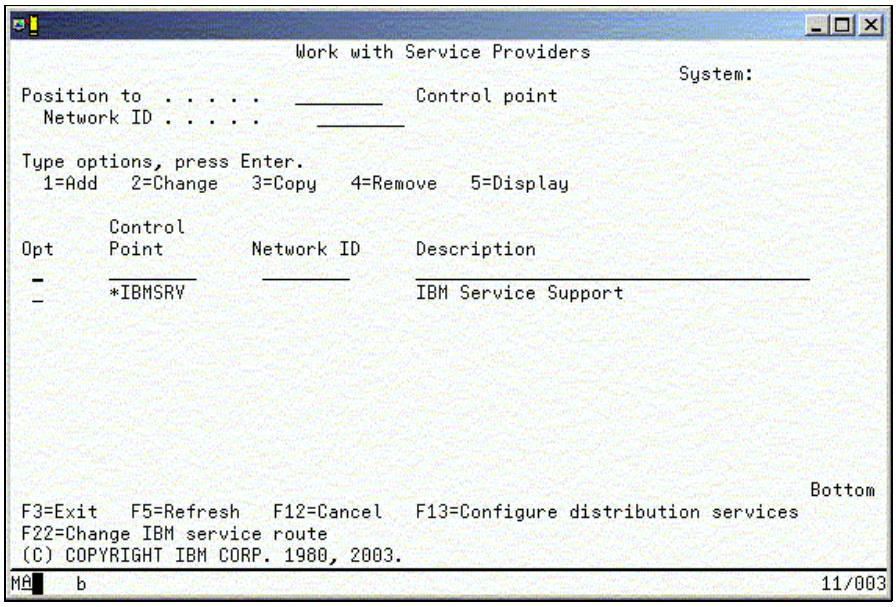

Figure 5-6 End-point system: Work with Service Providers display

6. On a command line, type:

```
WRKSRVPVD
```

7. This time on the Work with Service Providers display, press F1 (Add). Type the Control point name and the Network ID of the central system. Press Enter.
8. To avoid duplicate machine inventory collections and transactions from this activation and from the Management Central tasks, enter the following command for each end-point system as shown in Figure 5-7:

```
RMVJOBSCDE JOB(QS9SA*) ENTRYNBR(*ALL)
```

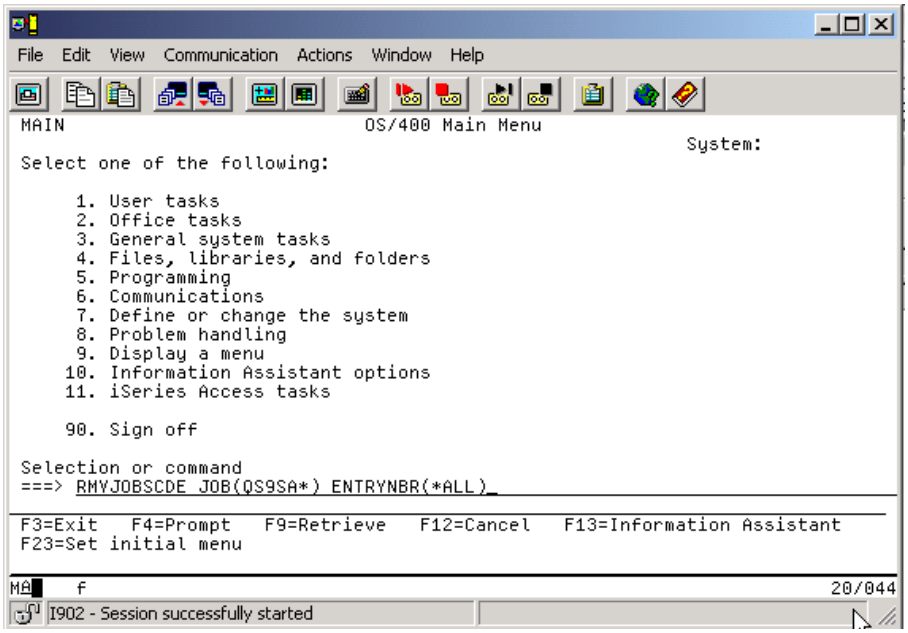

Figure 5-7 Removing a job schedule

You are done working on the end-point systems. Proceed to Management Central to configure the machine inventory collection.

Machine inventory collection and transmission

Management Central on the central system provides the Extreme Support wizard to help you set up the machine inventory collection and transmission to IBM.

1. In the the iSeries Navigator Management Central menu (lower right pane in Figure 5-8), right-click **Extreme Support** and select **Configuration**.

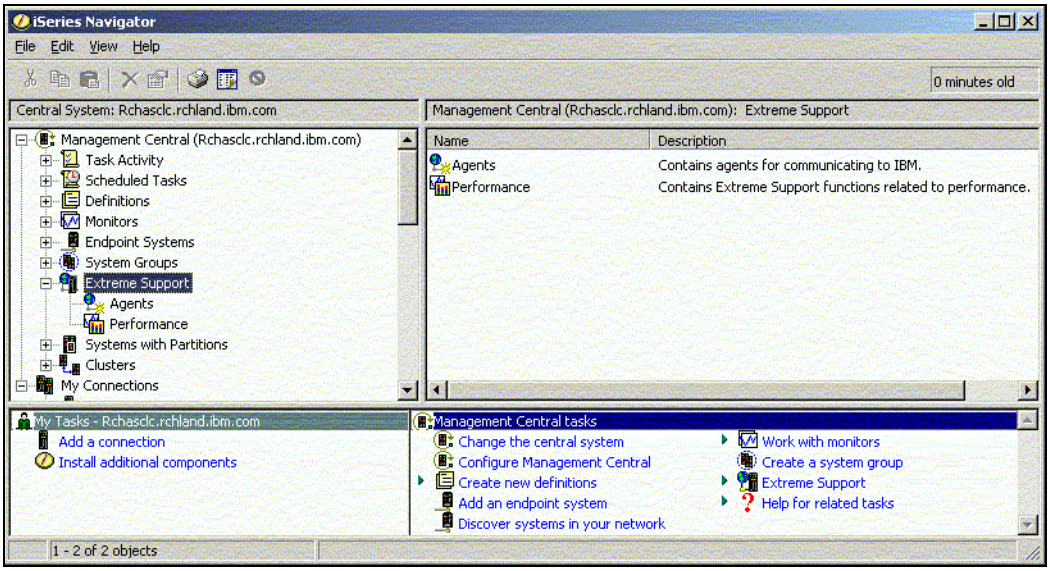

Figure 5-8 Management Central menu in iSeries Navigator

2. You now reach the Service Agent portion of the wizard. The Extreme Support Configuration – Welcome window (Figure 5-9) opens. Click **Next**.

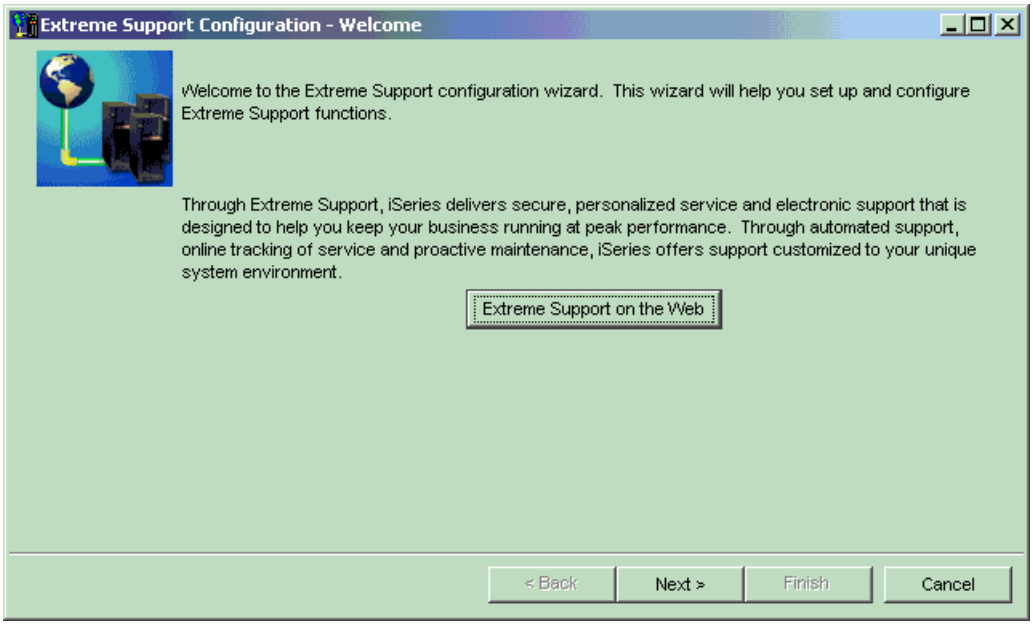

Figure 5-9 Extreme Support Configuration – Welcome window

3. On the Functions panel (Figure 5-10), accept the two default selections or deselect the **Receive fixes from IBM** option. Then click **Next**.

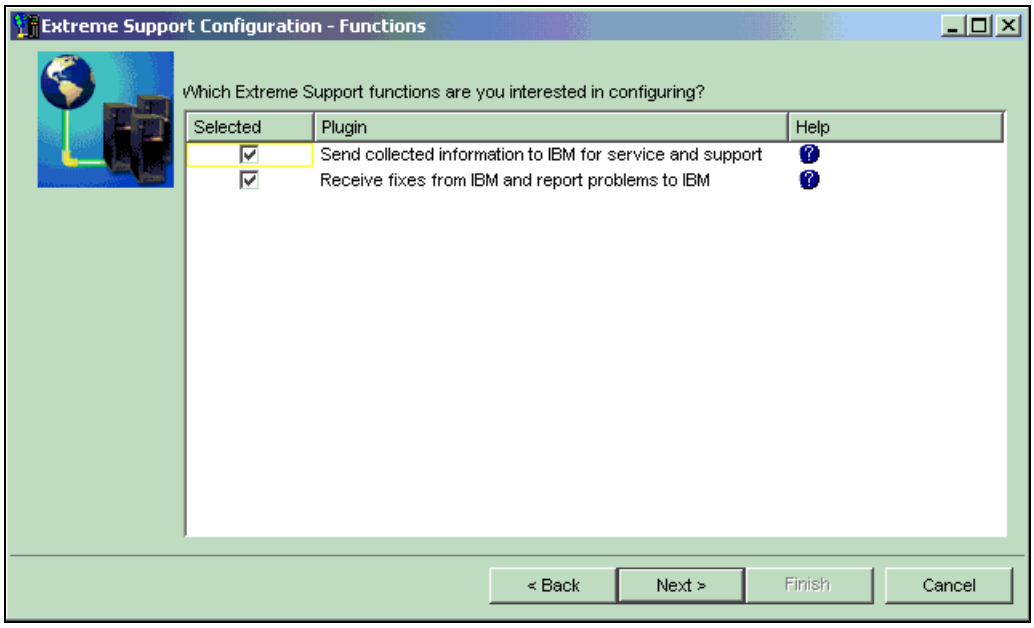

Figure 5-10 Extreme Support wizard – Functions window

4. The Electronic Service Agent – Agent window (Figure 5-11) opens. On the Welcome window, click **Next**.

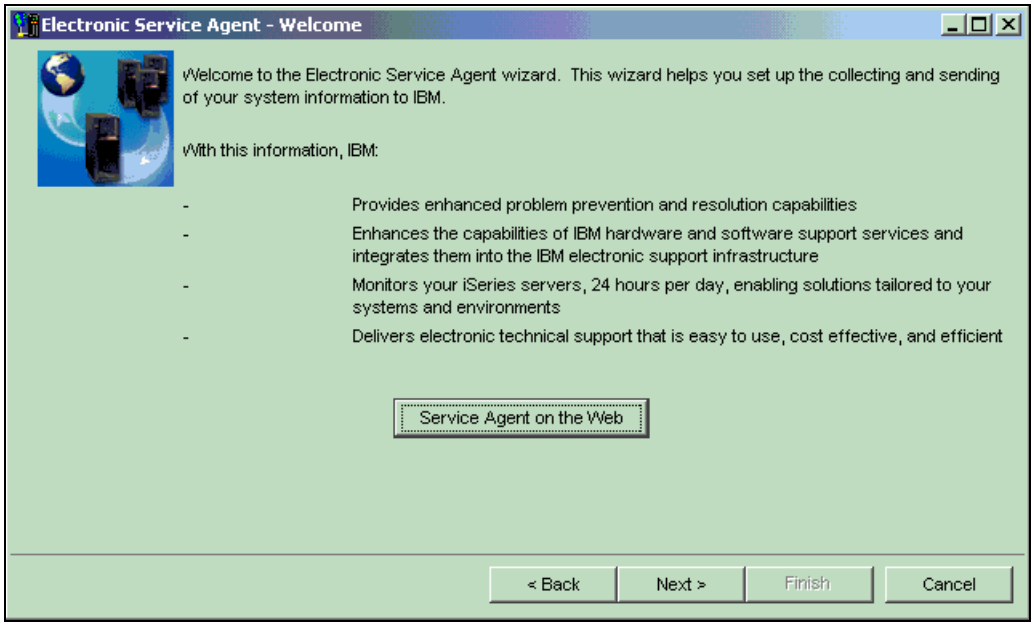

Figure 5-11 Electronic Service Agent – Welcome window

5. The Electronic Service Agent – Select System Groups window (Figure 5-12) opens. Select the system groups that you created or confirmed during your planning activities. Click **Next**.

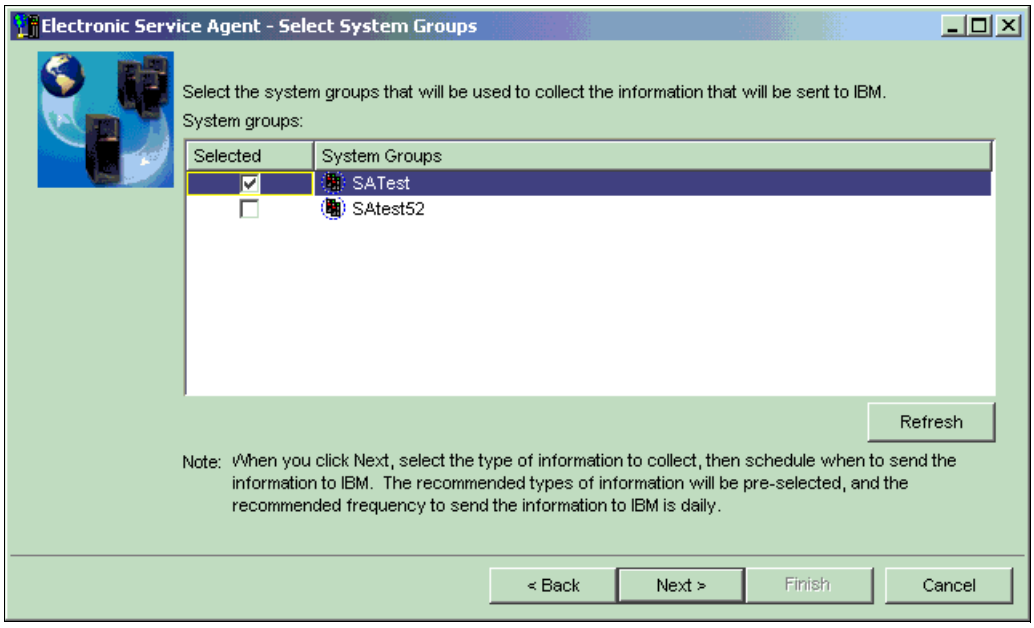

Figure 5-12 Electronic Service Agent – Select System Groups window

6. The Electronic Service Agent – Summary window (Figure 5-13) opens, showing your selections. Click **Next**.

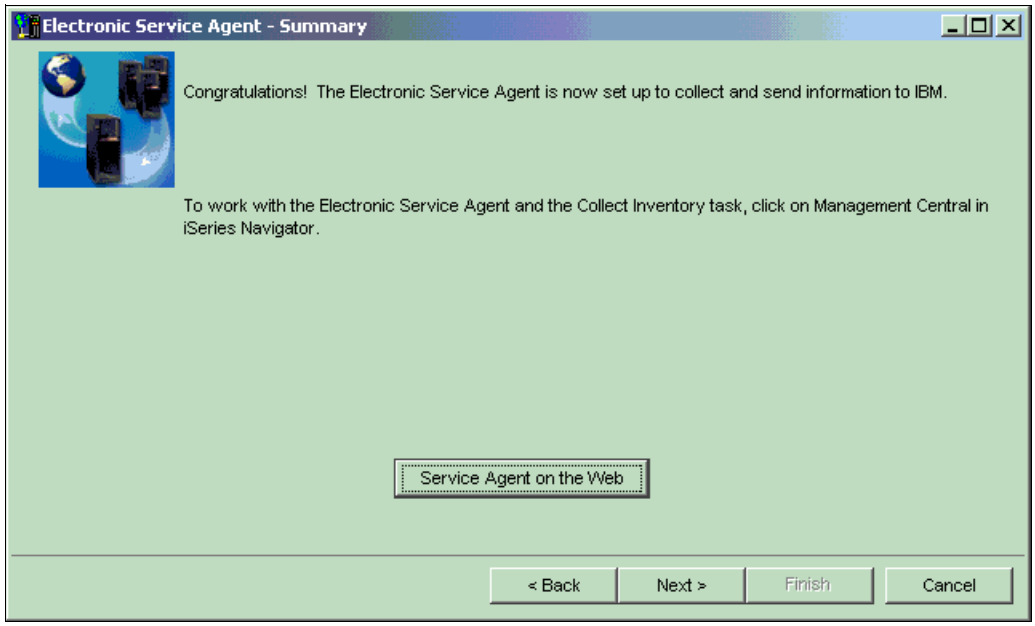

Figure 5-13 Electronic Service Agent – Summary window

7. The final window of the wizard opens as shown in Figure 5-14. Click **Finish**.

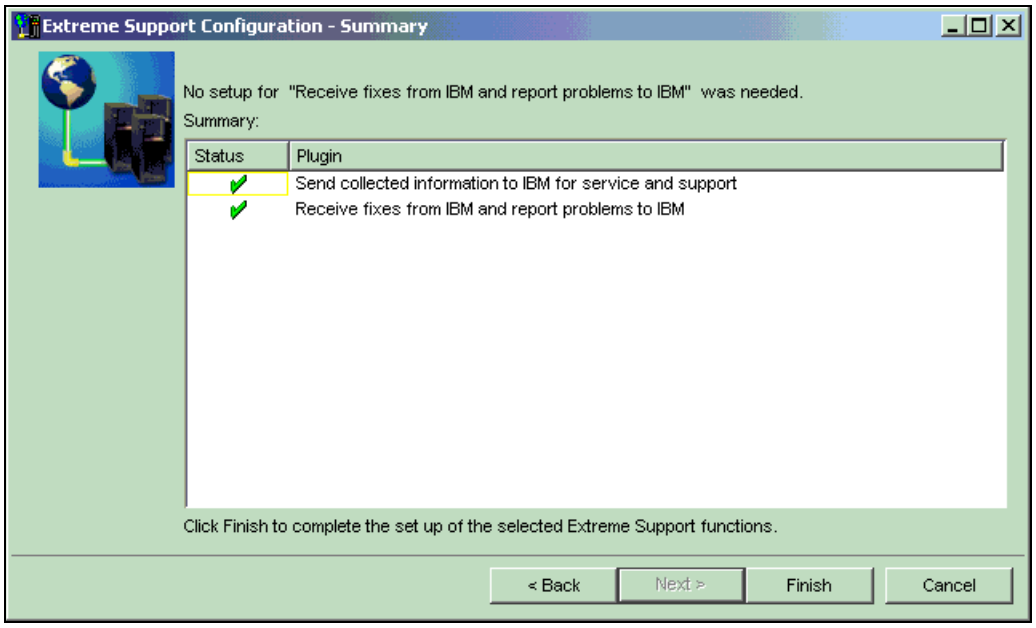

Figure 5-14 Electronic Service Agent – Summary window (final)

You have completed Service Agent activation on both the central system and the end-point systems for both automatic hardware problem submission and inventory collection.

5.4 Mixed operating systems in a partitioned environment

Electronic Service Agent for iSeries can run in @server i5 and iSeries multi-partition environments.

5.4.1 AS/400e and iSeries hardware

Electronic Services operation in a multipartition or multisystem AS/400e™ and iSeries hardware environment depends on connectivity and the Service Agent settings. Here are several examples:

- When OS/400 V5R3 is on both a central partition and on the partition with Service Agent V5R3 activated:
  - Hardware problems are reported to the central partition.
  - System inventory is collected and transmitted to the central partition.
  - The central partition communicates to IBM.
- When OS/400 V5R3 is on a central partition and an older version of OS/400 is on partitions with respective Service Agents activated:
  - Hardware problems are reported to the central partition.
  - System inventory is collected and transmitted to the central partition.
  - The central partition communicates to IBM.

- When OS/400 V5R3 is on a central partition and AIX or the Linux operating system reside on the partition:
  - Service Agents (iSeries, pSeries, or Linux) are not operational in this environment.
  - There is no reporting of hardware problems.
  - There is no collection of system inventory collection.

5.4.2 @server i5 hardware

Electronic Service Agent operation is also available on @server i5 with the following considerations:

- When i5/OS is resident on a partition:
  - Hardware problems are reported to the HMC.
  - Machine inventory is collected and transmitted to the HMC.
  - HMC transmits to IBM.
- If the Linux or AIX operating system is resident on the partition:
  - Hardware problems are reported to the HMC, which transmits this information to IBM.
  - No machine inventory is collected on the partitions.
  - Service Agents for Linux or pSeries are not operational in this environment.

5.5 HMC Service Agent

Four major components make up the Service Agent environment on HMC machines:

- The *Electronic Server System (ESS)* process runs only on the gateway HMC. The ESS handles all requests for data input and retrieval from the centralized database.
- The *On Demand Server (ODS)* process runs on all HMCs that are defined and handles all Service Agent communication activities for that host. The ODS sends data to the ESS process as necessary or makes a request to Service Agent Connection Manager (SACM) to call IBM. Events from the Service Focal Point (SFP) are reported to IBM directly using an Internet connection or a modem that is attached to the gateway server. Service Agent calls IBM to report that it is healthy, once in every health-check interval.
- *Service Agent Connection Manager* is a stand-alone process. You can configure it to communicate with IBM using an existing Internet connection or modem. It may exist on any HMC or stand-alone @server i5 machine and can support multiple Service Agent Gateway connections.
- The *User Interface* allows you to set up and define HMCs that Service Agent monitors. The graphical user interface (GUI) is invoked from *Web-based System Manager (WSM)* by selecting Service Agent from the Service Applications. Then from the WSM service menu, you select TASKS for the Service Agent User Interface. User Interface is used for advanced functions and customization of system as well as to configure complex systems and multilevel networks.

5.5.1 Planning

Establish the overall HMC environment before you activate Service Agent. Do not start Service Agent processes if the network is not configured on the gateway or your HMC.

Review and complete the following items:

1. On new installations, the HMC host name is a default name. Assign it a new name that suits the client's network environment.
2. On the HMC gateway, ensure that the modem and phone line are connected if they are being used. Check the physical connections to determine this.
3. If you are using the Internet, make sure that the HMC has connectivity to the network.
4. If HMC is a client, then start Service Agent only after the network is setup properly.
5. After the host name is assigned, determine the type of Service Agent to apply, gateway or client.

Figure 5-15 shows the HMC high-level activation flow.

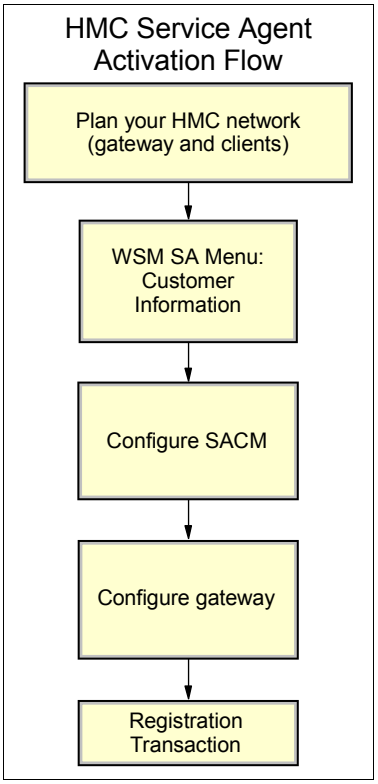

Figure 5-15 HMC Service Agent activation flow

5.5.2 Installation and activation

HMC machines have Service Agent installed as part of the HMC code. Service Agent appears on the HMC menu.

Complete the following steps to activate HMC Service Agents.

1. In the Navigation Area on the HMC menu, select **Service Applications** → **Service Agent**, as shown in Figure 5-16.

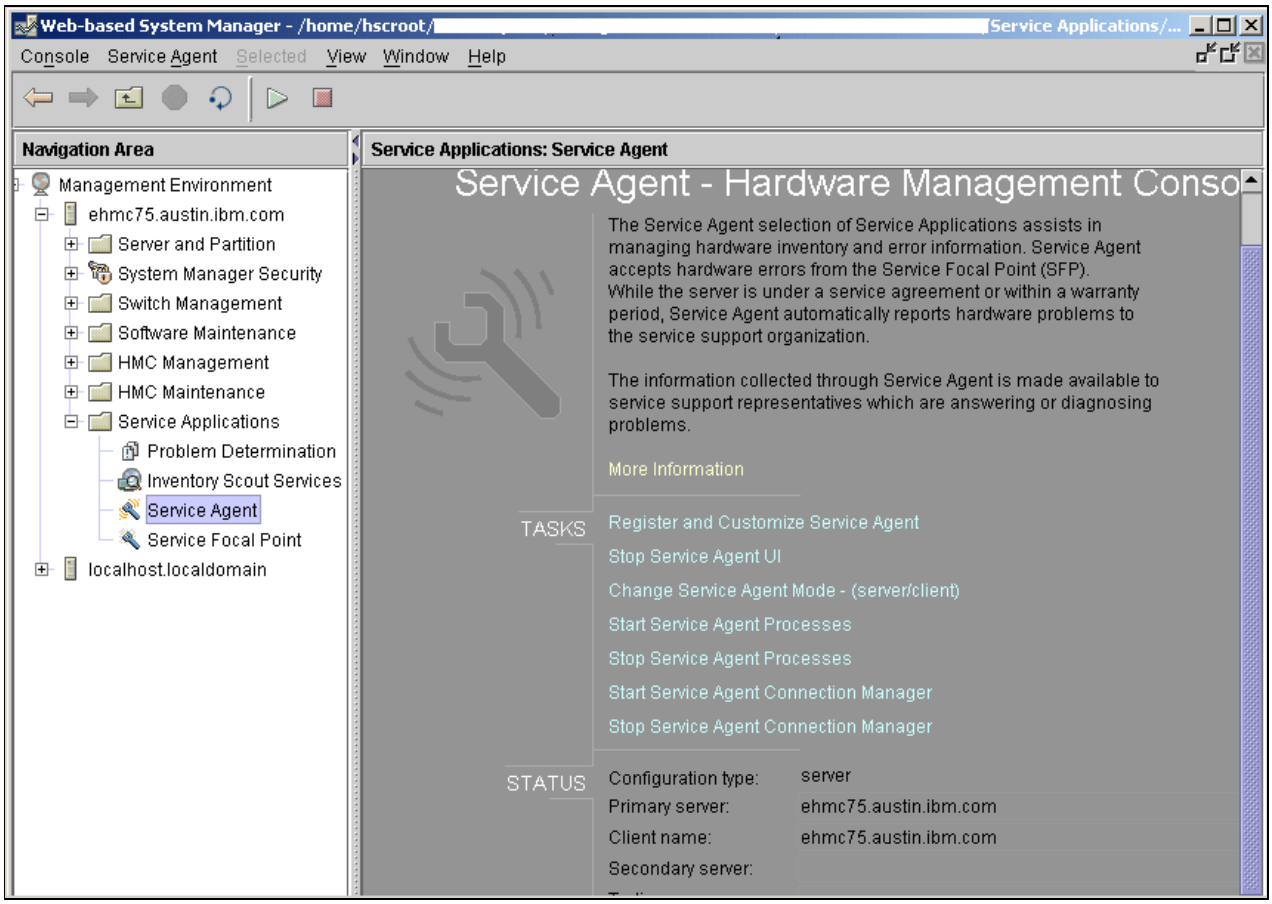

Figure 5-16 HMC Service Agent Menu

2. Service Agent detects whether it is activated. If it is not, you see the window shown in Figure 5-17. Verify or update the information, and then click **Continue**.

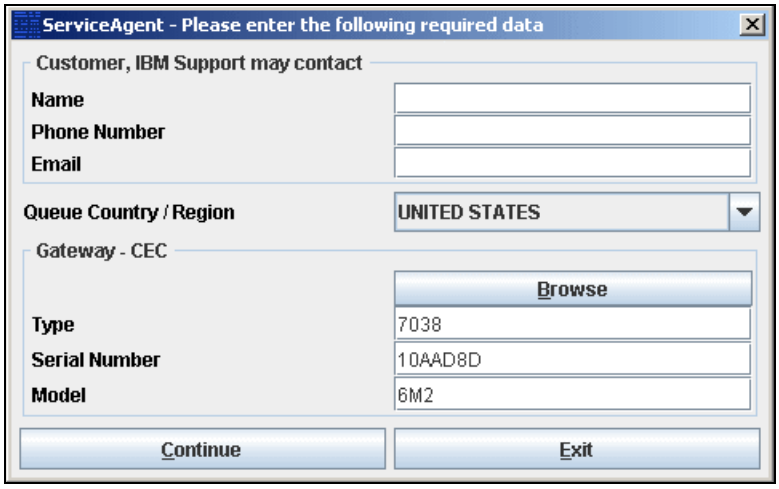

Figure 5-17 HMC Service Agent activation wizard (Part 1 of 2)

3. Now you see the window shown in Figure 5-18. Type the requested information and click **OK**.

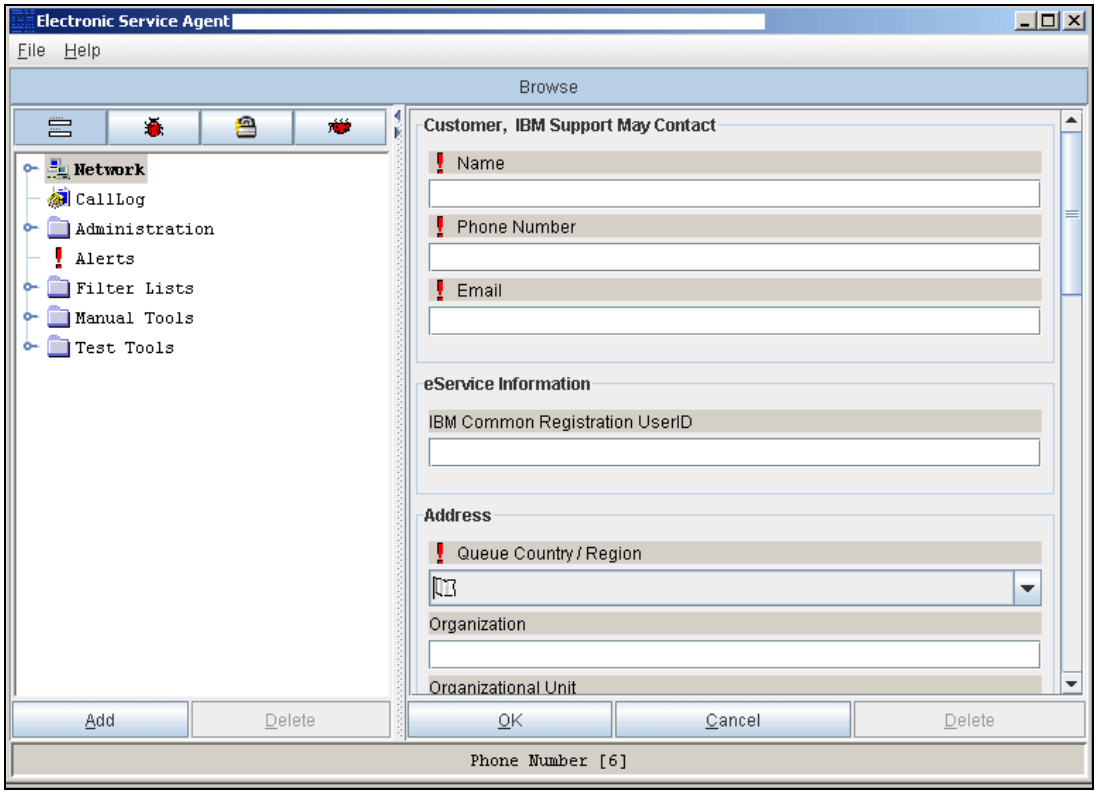

Figure 5-18 HMC Service Agent activation wizard (Part 2 of 2)

5.5.3 Maintenance

Updates to the HMC Service Agent are done with new releases of HMC code. The HMC Service Agent GUI is invoked from the WSM when you select Service Applications → Service Agent.

The Service Agent menu is broken into two main sections, TASK and STATUS, as shown in Figure 5-16:

- In the TASK section, you start and stop a process, change the function, update the host name, and access the user interface.
- In the STATUS section, you see information about how this HMC is configured (server/client) and the status of the Service Agent processes.

6

Electronic Service Agent for RS/6000 and pSeries

This chapter provides background and information about Service Agent on the pSeries platform. It is written for users and RS/6000® system administrators who are familiar with, or have a working knowledge of, AIX and RISC architecture as it pertains to basic operation of IBM RISC pSeries and RS/6000®.

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6.1 Electronic Service Agent Version 3.1 on pSeries

Service Agent on the pSeries platform began with Service Director on RS/6000 in 1994. It served as a problem detection and submission tool on desktop Models 7011 through 7015 in the United States. During the past decade, more models and function have been added, hence the migration to Service Agent title in 2001.

Electronic Service Agent for pSeries is now available on all models of the pSeries platform in all countries (regions). Today the Service Agent for pSeries submits problems automatically and collects machine inventory information for both the stand-alone and the Hardware Management Console (HMC) environments.

The following information is from the current *Electronic Service Agent for pSeries User Guide,* SC38-7105, and *Electronic Service Agent for pSeries and RS/6000 Hardware Management Console (HMC)*, SC38-7107. Refer to these user guides for comprehensive information about these subjects. All the Service Agent graphical user interface (GUI) help text is directly from the user guides.

6.1.1 Overview of Service Agent on pSeries

Figure 6-1 shows how your environment has the potential for a stand-alone configuration, HMC machines in a configuration, or both types of configuration.

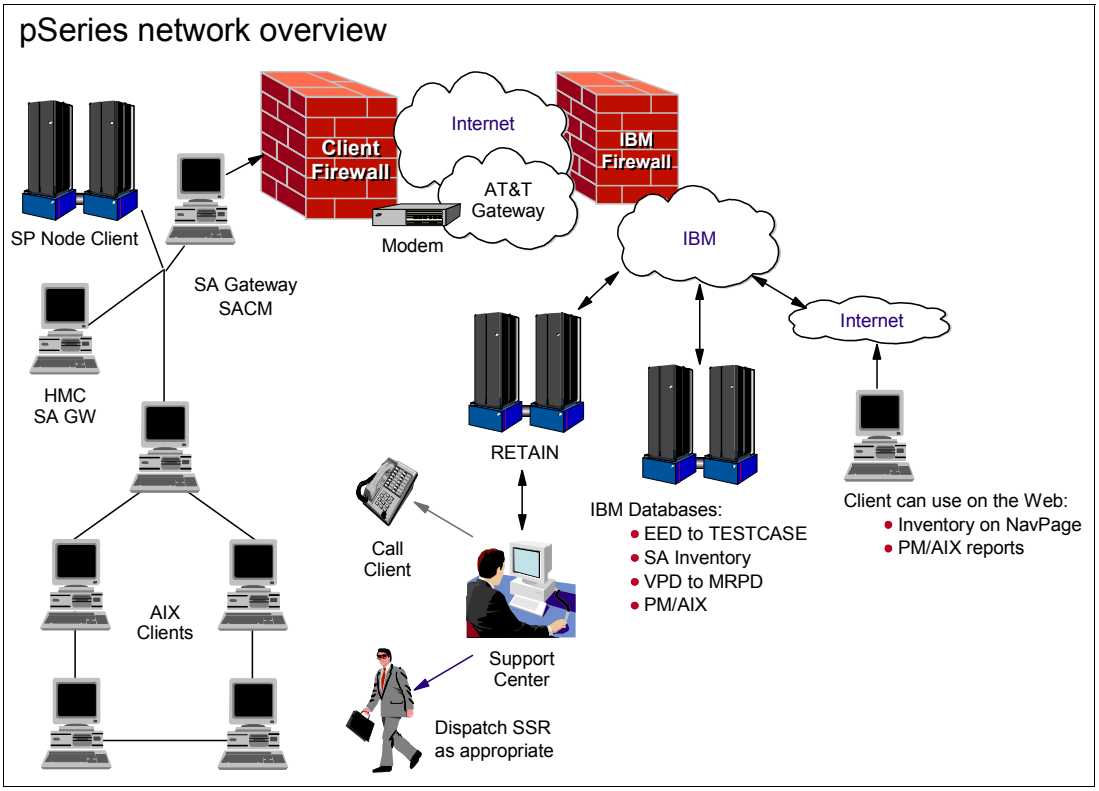

Figure 6-1 Service Agent for pSeries network view

Service Agent is flexible and can be configured to your environment. Service Agent works with clients by reporting through AIX gateways or the HMC client to the HMC gateway. All Service Agent communication flows through the Service Agent Connection Manager (SACM) on either AIX or HMC host to IBM.

The choices of communication to IBM are either modem or Internet. The automatic problem submission path and the inventory paths are through secure firewalls that go into the appropriate IBM databases. You can use IBM Web sites to view the Service Agent inventory, Performance Management reports, and other offerings. The HMC Web-based System Manager (WSM) and System Management Interface Tool (SMIT) present Service Agent menus or interfaces.

The HMC WSM menus allow control and setup of Service Agent. The Service Agent User Interface (SAUI) is used for various functions, such as setting local user notification entries, customizing the system, and displaying local Service Agent information. Starting and stopping the application, as well as basic configuration, are also done via the WSM menu.

The SMIT-derived menus in an AIX environment enable you to control management of the application and select the user interface. They also display the application status.

6.1.2 Key tasks and functions of Version 3.1

The Electronic Service Agent functions that are available in Version 3.1 include:

- Use of Internet access or modem phone line connection to IBM
- Automatic problem analysis and submission based on defined thresholds
- Automatic client notification and view of hardware event logs of any automatic problems
- High-availability cluster multiprocessing (HACMP™) support for full fallback, including high-availability cluster workstation (HACWS) for 9076
- Vital product data (VPD) or machine inventory information sent to IBM
- Software product information install and fix sent to IBM
- Capacity Upgrade on Demand (CUoD) enabled on non-HMC servers
- Using Performance Management, automatic reporting of PM/AIX data to IBM

6.1.3 Machine types and models that are eligible for Service Agent

Service Agent supports all pSeries and RS/6000 machine types. This includes the 9076 (SP) or cluster configurations. All machine types that have concurrent diagnostics installed and are under IBM warranty or maintenance contracts (for problem submission) are eligible.

6.1.4 Service Agent Connection Manager

One of the major improvements or simplifications in Version 3.1 is the introduction of the SACM. The SACM is a stand-alone process that can be configured to communicate with IBM using an existing Internet connection or modem. This application is installed with the Service Agent AIX code on the Service Agent gateway, but can be installed as stand-alone code on any supported platform. It may exist on any HMC or stand-alone AIX machine and can support multiple Service Agent gateway connections.

The features that enable enhanced security, as shown in Figure 6-2, help to:

- Provide firewall support using either a proxy service or provide for traffic to pass through a Network Address Translation (NAT) device such as a Cisco PIX Firewall
- Provide a single point of exit from the client environment
- Ensure Inter-Enterprise Security (IES) compliance

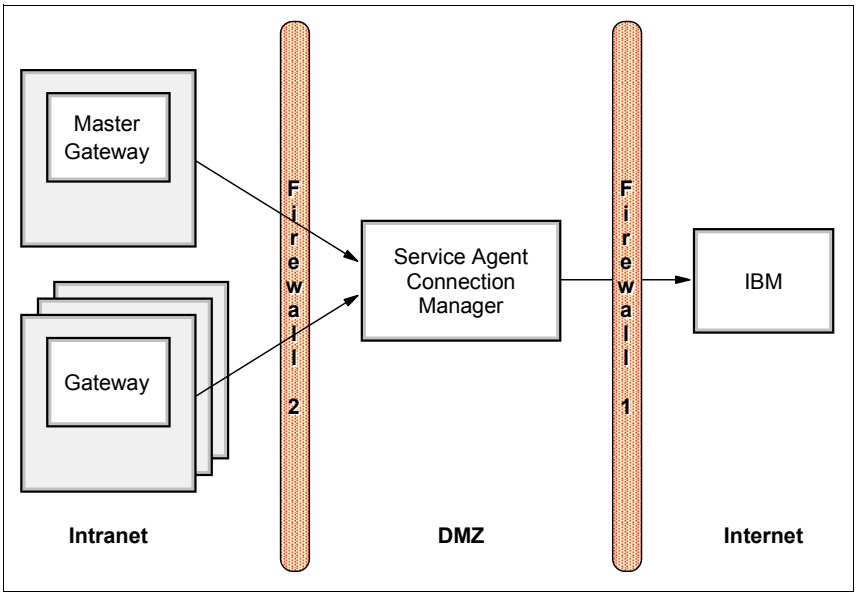

Figure 6-2 Sample configuration using firewalls and SACM

6.2 Stand-alone: Planning and prerequisites

Early planning may save you valuable time and prevent aggravation later. Understanding how to set up the Service Agent application to best cover your information technology (IT) environment should make the Service Agent experience much more enjoyable.

Consider the following items to assist in your decision making and placement of the Service Agent components.

- Ensure that your pSeries or RS/6000 is at AIX Version 4.2.1 or later with concurrent diagnostics installed. IBM diagnostics must be installed on every monitored machine. Error logging and error log analysis must be enabled.
- Java is required on all monitored machines. Java for AIX 4.3.3 or later is on the system disk. You obtain Java from another source for machines with AIX versions earlier than 4.3.3.
- Note the correct memory needed for various components of Service Agent:
  - The minimum GUI is 10 MB. The maximum is 32 MB.
  - For a 50 system network, 20 MB are required.
  - For a 100 system network, 25 MB are required.
  - Electronic Server System (ESS) requires 64 MB.
  - On Demand Server (ODS) requires 64 MB.
- Ensure that the person who is installing Service Agent has root authority on the gateway machine. This person must have access to a root-authorized window while installing Service Agent.
- All communications between the Service Agent gateway and IBM are now encrypted and secure using Java Secure Sockets Layer (SSL) regardless of the communication method that is selected.
  - Is an existing high-speed Internet access available to communicate with IBM? If no Internet access is available, then you must meet all dialer prerequisites.

  - Is a modem is required? Only outbound calls are required by Service Agent, so the auto answer capability of the modem should be disabled. Refer to the local procedures in your country (region) for asynchronous modem requirements for speed and error correction.
- Determine which host will best support the Connection Manager.
- Identify whether any High Availability (HA) configurations will be supported by Service Agent.
- Verify whether an HMC host name and network are established and defined.
- Determine the number of Service Agent gateway machines that need to be set up to cover the different client host.
  - All client configurations must exist in their respective Service Agent gateway databases.
  - For multiple gateway configurations, build the first Service Agent gateway and then export the database to a temp file. Import the temp file database to the second or third gateway as needed.
  - Set up only one Service Agent gateway as a master gateway for each Service Agent Connection Manager (SACM).
- Service Agent needs to know the host name, machine type, model, serial number, and processor ID (should be auto filled) to monitor managed machines. Service Agent V3.1 attempts to automatically discover the machine type, model, and serial number once the host name is given.

6.2.1 Service Agent code installation and activation

You can obtain the Service Agent code, user guides, and readme files from several sources:

- The AIX Expansion Pack is a collection of additional applications and tools. All complement the AIX operating system with additional packaged software at no additional charge. An Expansion Pack is included with every new order when media is selected.
- The IBM FTP site also provides this information:

  `ftp://ftp.software.ibm.com/aix/service_agent_code/AIX`

6.2.2 Installation

You install the Service Agent code on your system, and then you activate it to start the tasks. Next you untar the svcagent.tar file into the directory from which you want to install it. The restoration of the archive file creates a new sa subdirectory with svcagent modules.

Note: You can install V3.1 over previous versions of Service Agent for pSeries. Your machine list, communications files, and database remain the same. We recommend that, if you are migrating from Service Agent V2.4 or earlier, use the clean installation procedure.

1. To save the configuration, save the current Service Agent gateway database.
2. Remove the current version of Service Agent.
3. Install the new version of Service Agent.
4. To restore the configurations, import the saved Service Agent gateway database.

There are two methods to install Electronic Service Agent:

- Install from the SMIT.
  a. Log on to the gateway server as `root` or sign on using a root-authorized user ID.
  b. To activate the SMIT, type (in lowercase):

     ```
     smit
     ```

  c. Select **Software Installation and Maintenance**, **Install and Update Software** and then **Install and Update from Latest Available Software**.
  d. Type the INPUT device/directory (or select install media) and click **OK**.
  e. From the SOFTWARE list, select **svcagent** to do a complete install. Click **OK**.
  f. View the install Summary message result column to ensure that it indicates *Success*.
  g. After the Service Agent program installs, select **DONE**. Depending on your version of AIX, you do this either by clicking the DONE button, selecting DONE from a list of options, or pressing a PF key at the bottom or your display.
  h. Select **CANCEL** to return to the SMIT display.

  You have successfully installed Service Agent.
- Install from a command line.
  a. Log on to the gateway server as `root` or sign on using a root-authorized user ID.
  b. Type the following command:

     ```
     inutoc /tmp/sa
     ```

     tmp is the directory where you saved Service Agent.
  c. If this is a new installation, type the following command:

     ```
     installp -YacXd /tmp/sa svcagent
     ```

  d. Check the installp summary message result column to ensure that it indicates *Success*. Figure 6-3 shows a sample view of the summary message.

```
Installation Summary
--------------------

Name                        Level           Part        Event       Result
-------------------------------------------------------------------------------
svcagent.cm                 3.0.0.0         USR         APPLY       SUCCESS
svcagent.cm                 3.0.0.0         ROOT        APPLY       SUCCESS
svcagent.client             3.0.0.0         USR         APPLY       SUCCESS
svcagent.client             3.0.0.0         ROOT        APPLY       SUCCESS
svcagent.server             3.0.0.0         USR         APPLY       SUCCESS
svcagent.server             3.0.0.0         ROOT        APPLY       SUCCESS
svcagent.help.en_US         3.0.0.0         USR         APPLY       SUCCESS
```

Figure 6-3 SMIT menu summary results view

You have successfully installed Service Agent.

6.2.3 Activation

Figure 6-4 shows the steps to activate Service Agent for pSeries in a stand-alone environment.

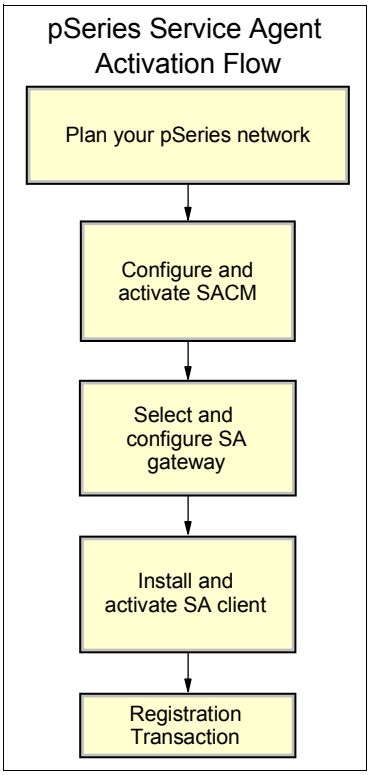

Figure 6-4 Service Agent for pSeries: Stand-alone activation flow

After the application is successfully installed, you must manually configure and start the Service Agent processes. This occurs only after the initial or new installation. The upgrade process does not require this step because Service Agent is already running.

Determining what to configure and start depends on what is installed. Each step uses SMIT Service Agent menus. Figure 6-5 shows a sample SMIT main Service Agent menu.

1. Create a new Service Agent gateway.
   a. In the SMIT menu, select **Service Agent** to access the Service Agent menu.
   b. In the SMIT main Service Agent menu (Figure 6-5), select **Manage Service Agent Connection Manager**.
   c. Then **Select Configure Service Agent Connection Manager**.

> **Note:** The defaults are: **localhost** for host name, **1198** for socket, and **secure** setting. If SACM points to a specific host, the fields must be updated with the correct information. The SACM process must be started before the using the Service Agent gateway.

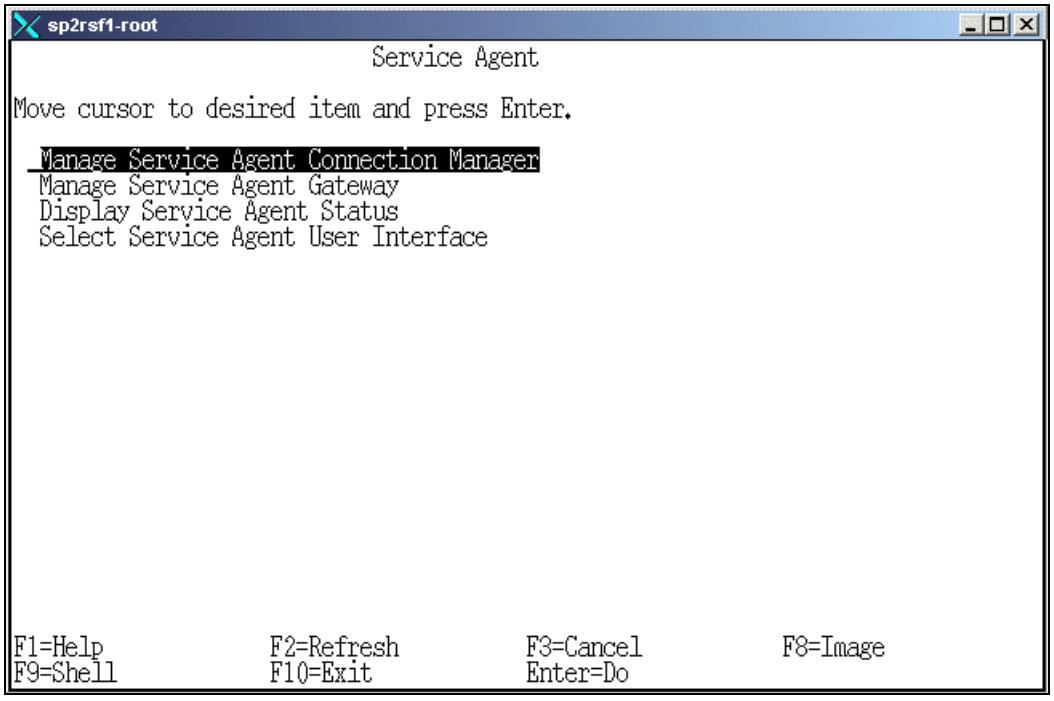

Figure 6-5 SMIT Main Service Agent menu

d. Click **OK**.

e. Click **Done**.

f. Return to the SMIT Main Service Agent menu.

g. Select **Manage Service Agent Gateway**, and then **Select Configure Service Agent Gateway** to start the Service Agent gateway processes. Add the inittab entries for database and ods script. The default host name of the Service Agent gateway server is the default configured host name. Click **OK**.

h. Click **Done**.

2. Install the Service Agent client code.

> **Note:** This step is required only if you manually installed the svcagent.client module on another host after the Service Agent gateway host is activated. This step is not required if code is applied to client from the Service Agent gateway.

a. From the SMIT menu, select **Manage SA Client**.

b. Configure the client first. The host name is the default. Change it to match the host name in the database if it is different. Enter the password for root to match the Service Agent gateway password.

c. Define the primary (required), secondary, and tertiary server host names, as appropriate.

d. Click **OK**.

e. Click **Done**.

6.2.4 Maintenance

Electronic Service Agent has several operational user interface views (ASCII and GUI) that you can access from the SMIT menu. Such views include Select Problem Determination, Service Agent, and Select Service Agent User Interface, which is shown in Figure 6-6.

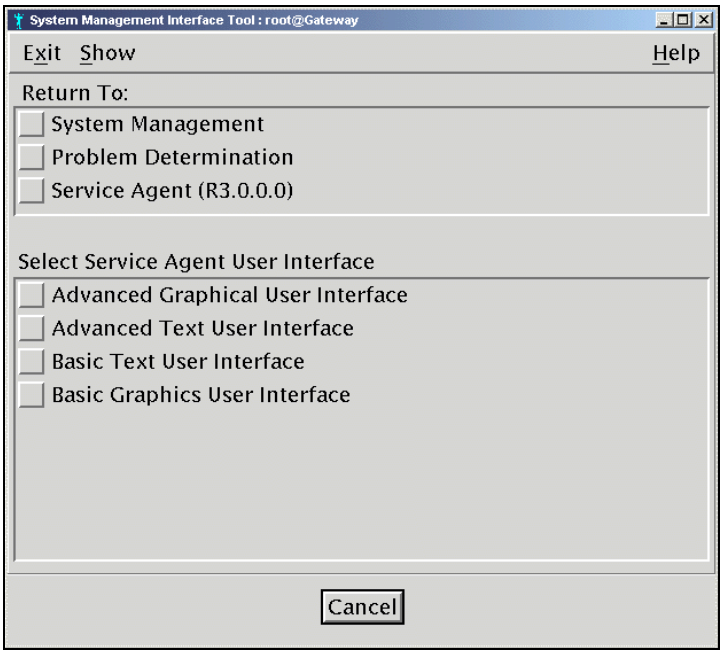

Figure 6-6 SMIT menu Select Service Agent User Interface

The Basic menu

When you select the Basic menu GUI (see Figure 6-7), you see several fields for customer contact information when you are on the GUI for the first time. Fields with exclamation marks (!) are mandatory and should be completed for the machine location. IBM communicates with your company and location based on the information in these fields. Incomplete or inaccurate information delays responses from IBM.

The select list located on the left side contains fields that are completed as you proceed through a guided process. Help for each of these selections is provided in the upper right side of the view. The lower right side of the view contains the specific fields within each selection.

When you complete the eService Information field with your IBM ID, your ID is authorized to view Service Agent information on the Electronic Services Web site and use the information in Premium Search queries.

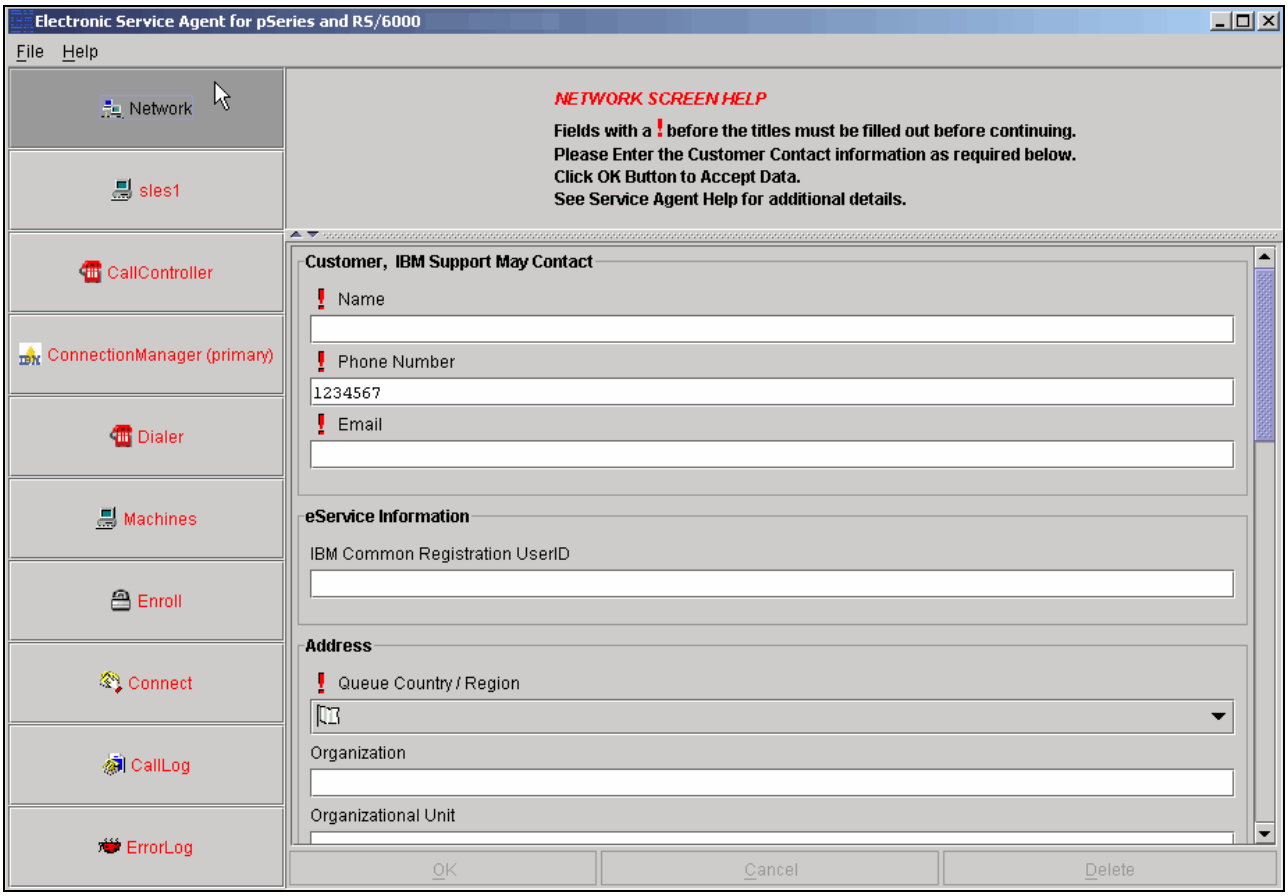

Figure 6-7 Service Agent for pSeries Basic main menu

The Call Log (Figure 6-8) displays the results of connections and transmissions to IBM. By viewing this log during the dialing or initial phase of a connection, real-time updates are logged. When a connection is made and requests are transmitted, a summary count of the request types and whether they were transmitted successfully are logged. The summary counts overlay the description entries made during the connection phase.

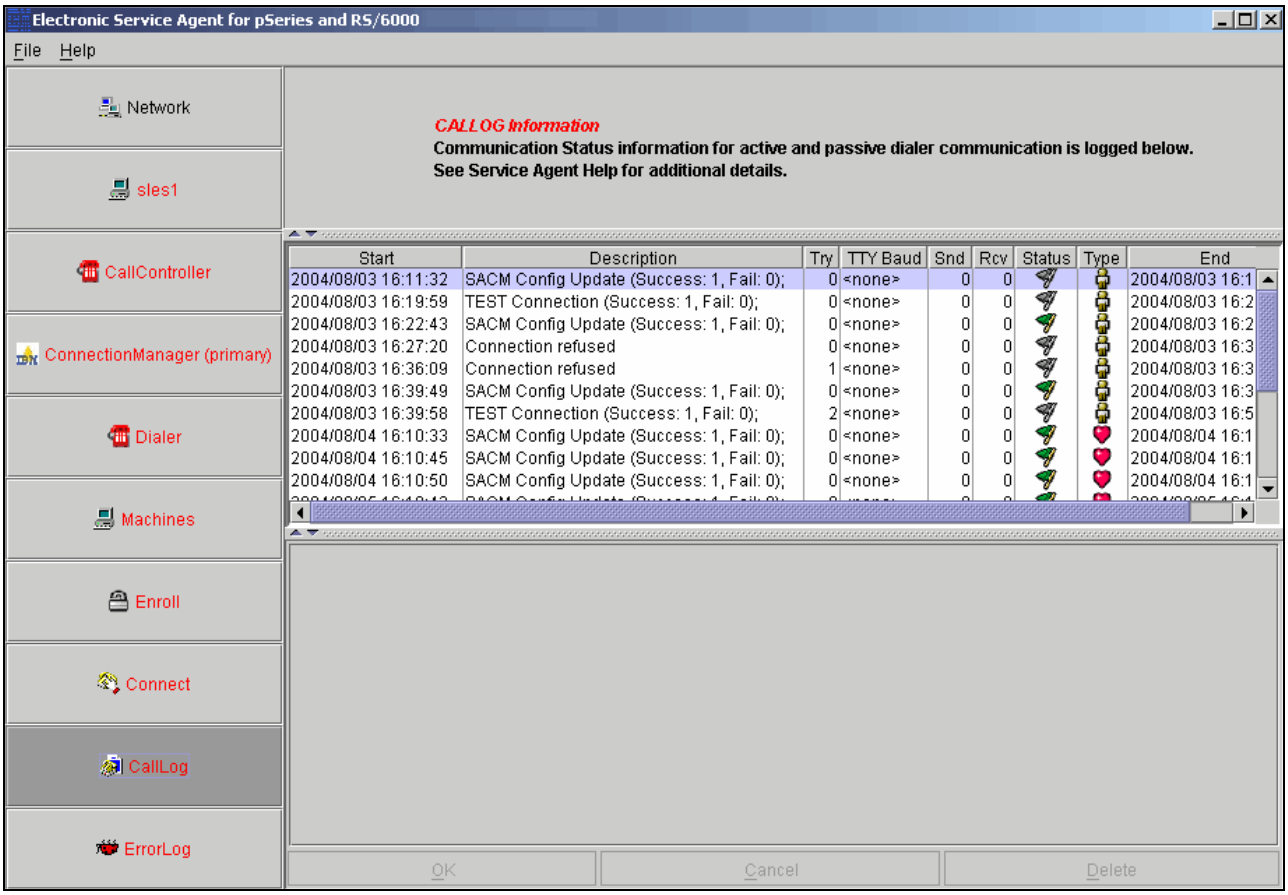

Figure 6-8 Service Agent for pSeries Basic menu calllog view

The other selections, such as the various logs and connection view, that are in the left navigation bar are used in activation or maintenance tasks.

Advanced menu

The Advanced menu (Figure 6-9) provides selections that handle the complex system configuration steps and maintenance tasks. Sample tasks include:

- Adding SP nodes to 9076 cws
- Setting thresholds, filters, and alerts
- Manual tools for testing and sending information to IBM
- Purging information
- Real-time monitoring of code clients and alerts

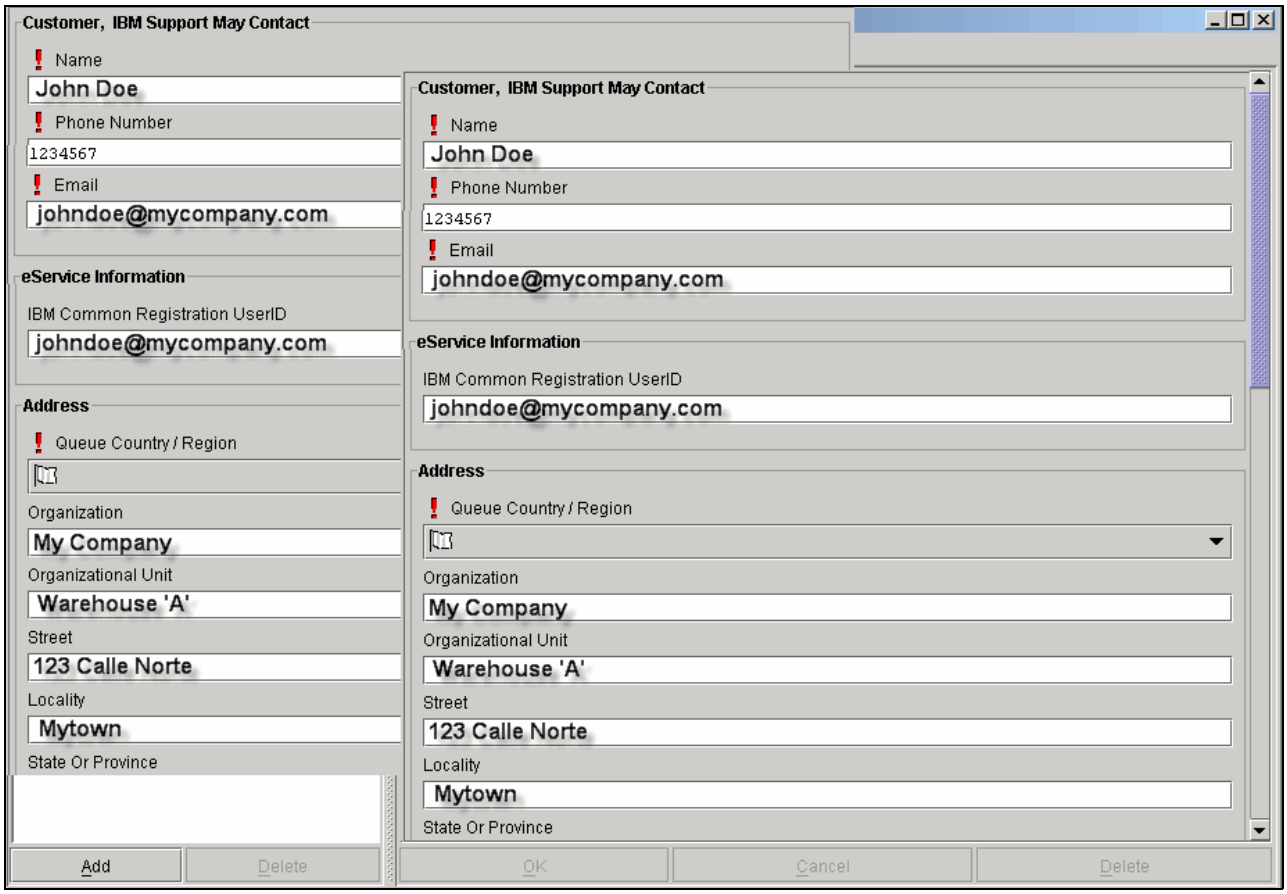

Figure 6-9 pService Agent Advanced menu

For more information under each properties folder, you use the four symbols above the left side area, as shown in Figure 6-10.

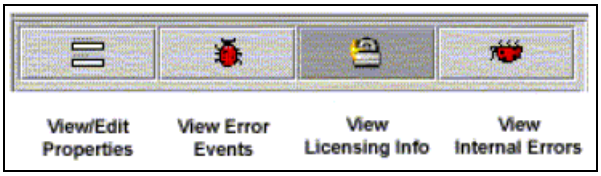

Figure 6-10 pSeries Service Agent Advanced menu: Property symbols

For example, when you select Network properties, the View licensing info button displays the licensing, Heartbeat status (green flag or red X), and lock status (red X) on all monitored machines as shown in Figure 6-11.

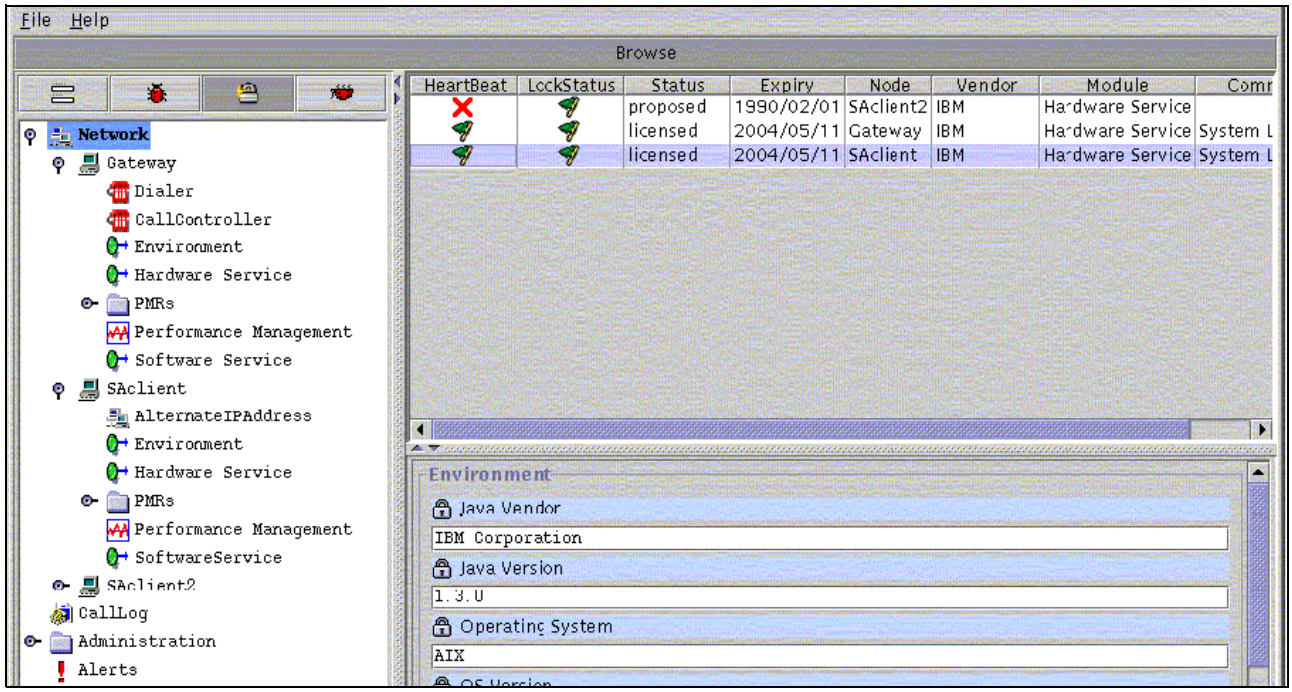

Figure 6-11 pSeries Service Agent Advanced menu: Expanded sample

E-mail alerts can be configured on the Advanced menus shown in Figure 6-12 and Figure 6-13. Different e-mail alerts can be customized for particular users. For example, you may want employee A to be notified of CAUTIONS and employee B to be notified of INTERNAL ERRORS. Only one e-mail alert is normally needed for any events that may happen on any of the systems using this gateway.

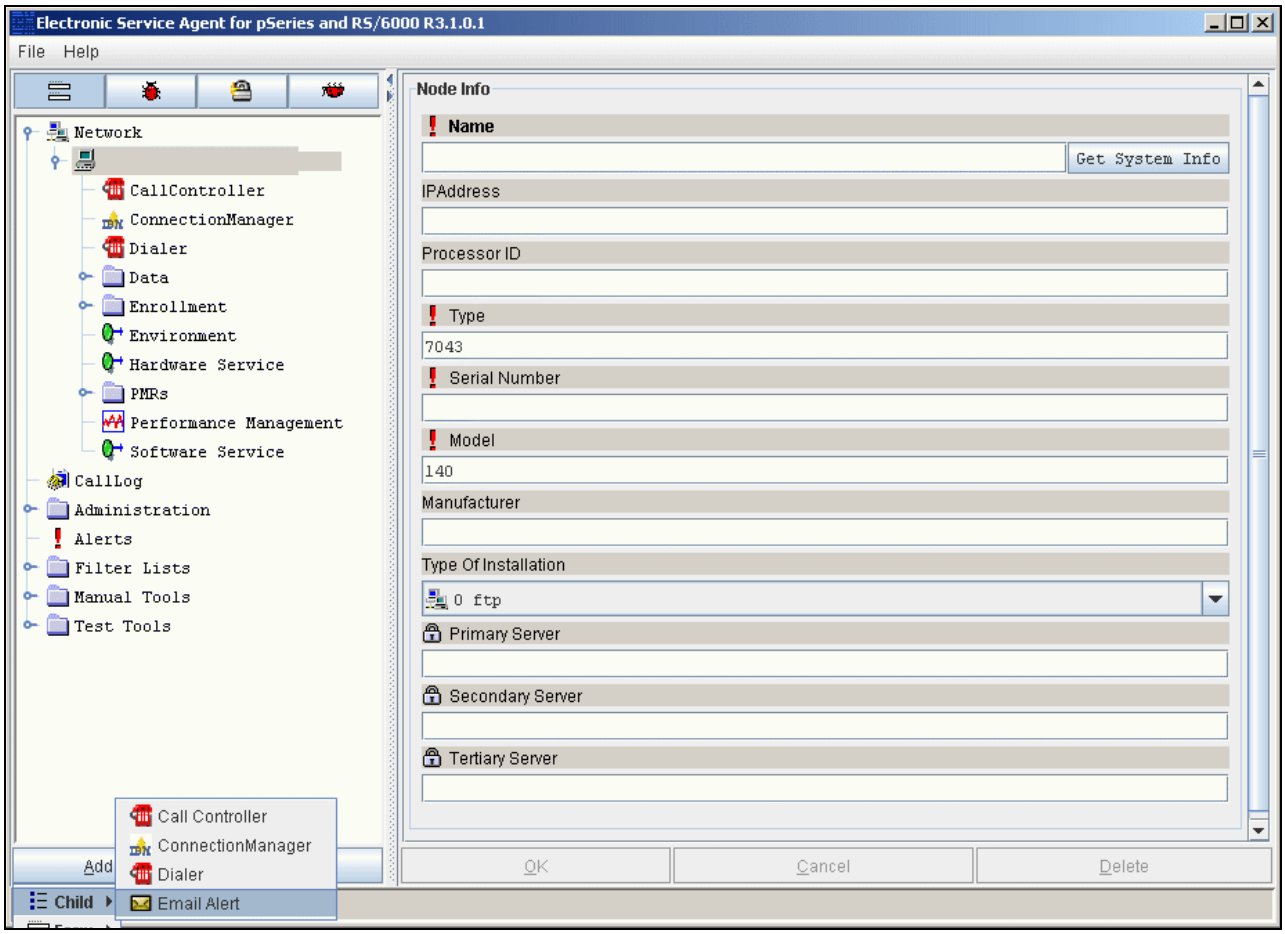

Figure 6-12 Advanced Menu: First view of e-mail setup

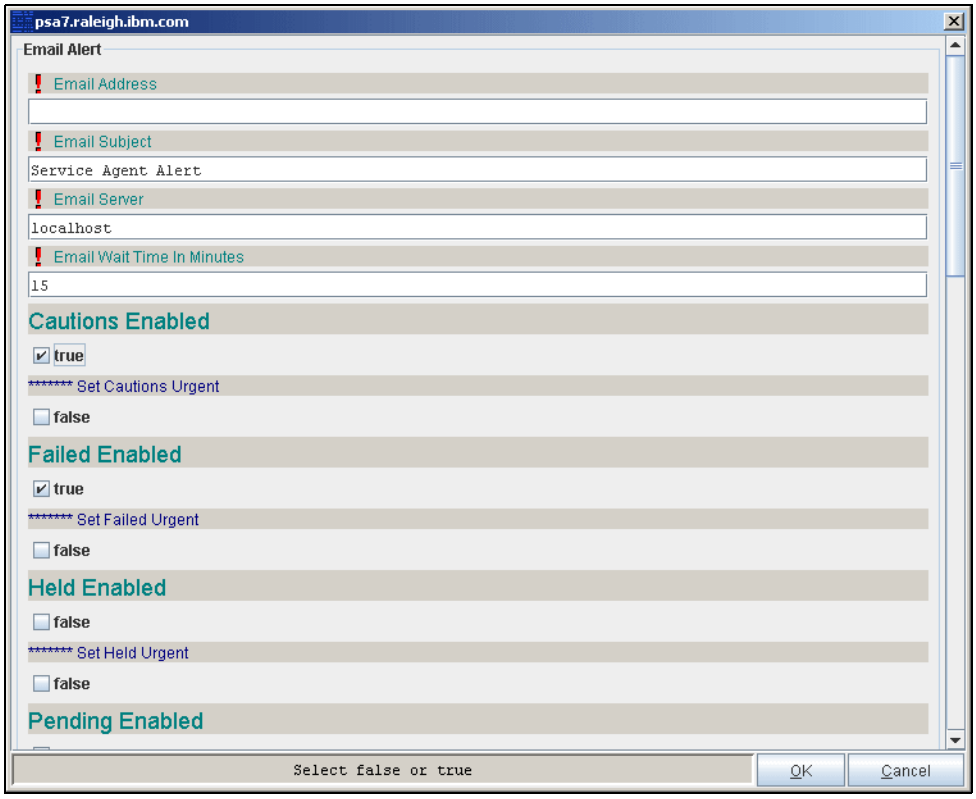

Figure 6-13 Advanced menu: Second panel of e-mail setup

Performance Management selection, on the Advanced menu shown in Figure 6-14, informs you of the status of the selected host. The same area displays the schedule for information collection and transmission to IBM.

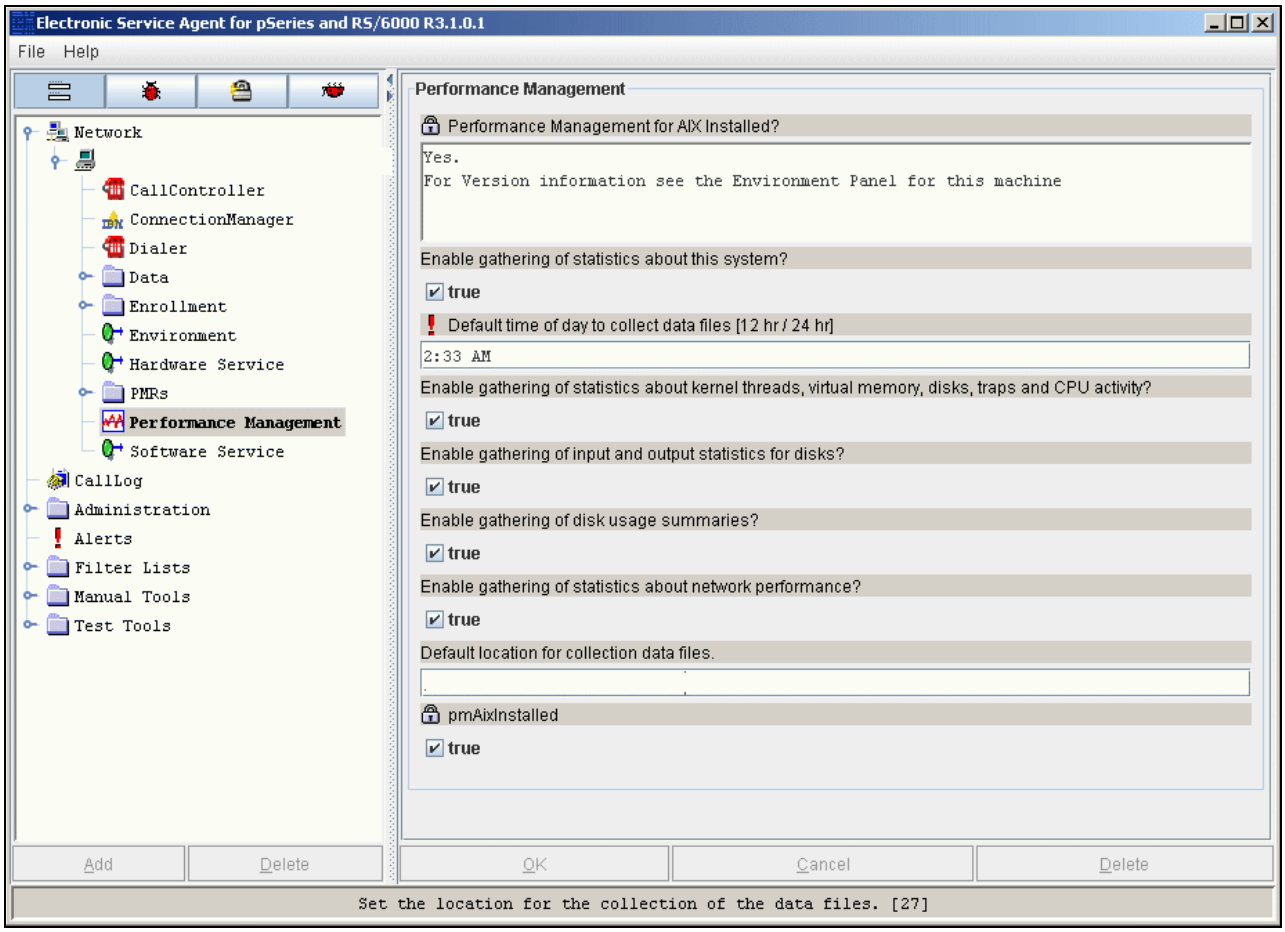

Figure 6-14 Advanced menu: Performance Management expanded

6.2.5 Stopping and restarting Service Agent

There may be times when you want to stop or restart the Service Agent daemon process. There are multiple places and steps to perform the stop and restart. This section provides a summary of the necessary tasks. For specific details, refer to the user guide.

Places to stop Service Agent

You can stop Service Agent in any of these areas:

- On the gateway server ESS, ODS, and SACM (where the Service Agent database resides)
- On the monitored machine ODS only (clients that report to the gateway server)
- On the stand-alone AIX server with SACM (Connection Manager server) only

Places to restart Service Agent

After you stop the Service Agent daemons, you restart them on both the gateway server and the monitored machines.

- Restarting the Service Agent daemons on the gateway server creates a new inittab entries for the ESS, ODS, and SACM daemon processes. If Connection Manager is not on this gateway, then it is not started.
- Restarting the Service Agent daemon on the monitored machines creates a new inittab entry for the ODS daemon.
- Restarting the Service Agent Connection Manager creates a new inittab entry for the SACM daemon process that restarts the server's Service Agent Connection Manager process.

6.3 HMC: Planning and prerequisites

Four major components make up the Service Agent environment on HMC machines:

- The *Electronic Server System* process runs only on the gateway HMC. The ESS handles all requests for data input and retrieval from the centralized database.
- The *On Demand Server* process runs on all HMCs that are defined and handles all Service Agent communication activities for that host. The ODS sends data to the ESS process as necessary or makes a request to SACM to call IBM. Events from the Service Focal Point (SFP) are reported to IBM directly using an Internet connection or a modem that is attached to the gateway server. Service Agent calls IBM to report that it is healthy, once in every health-check interval.
- The *Service Agent Connection Manager* is a stand-alone process that can be configured to communicate with IBM using an existing Internet connection or modem. It may exist on any HMC or stand-alone AIX machine and can support multiple Service Agent gateway connections.
- The *User Interface* allows the user to set up and define HMCs that Service Agent monitors. The GUI is invoked from the WSM when you select Service Agent from the Service Applications. Then in the WSM Service menu, you select TASKS for Service Agent User Interface. It is used for advanced functions and customization of the system as well as configuration for complex systems and multilevel networks.

Important: You must establish the HMC environment prior to activating Service Agent. Do not start the Service Agent processes if the network is not configured on the gateway or client HMC.

Here are several items to review:

- On new installations, the HMC host name is a default name. Be sure to assign a new name to fit your network environment.
- On the HMC gateway, ensure that the modem and phone line are connected if they are being used. Check the physical connections to determine this.
- If you are using the Internet, make sure that HMC has connectivity to network.
- If HMC is a client, then start Service Agent only after the network is set up properly.
- After assigning a host name, determine whether to apply a gateway or client Service Agent.

Figure 6-15 shows the high-level activation process.

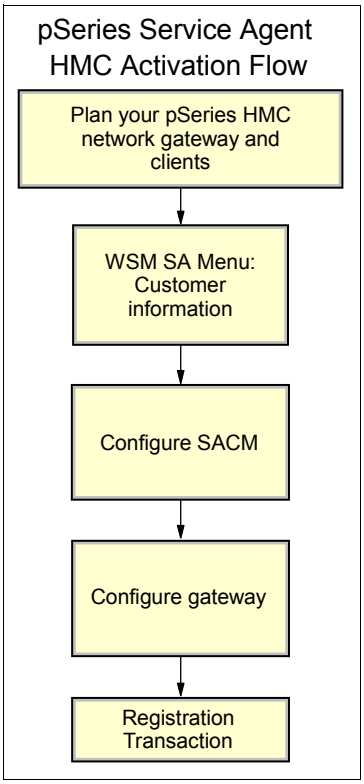

Figure 6-15 pSeries HMC activation flow

6.3.1 Installation and activation

HMC machines have Service Agent installed as part of the HMC code and on the HMC main menu under Service Applications. Updates to Service Agent are done with new releases of HMC code.

1. In the Navigation Area on the HMC main menu, select **Service Applications** →**Service Agent** (Figure 6-16).

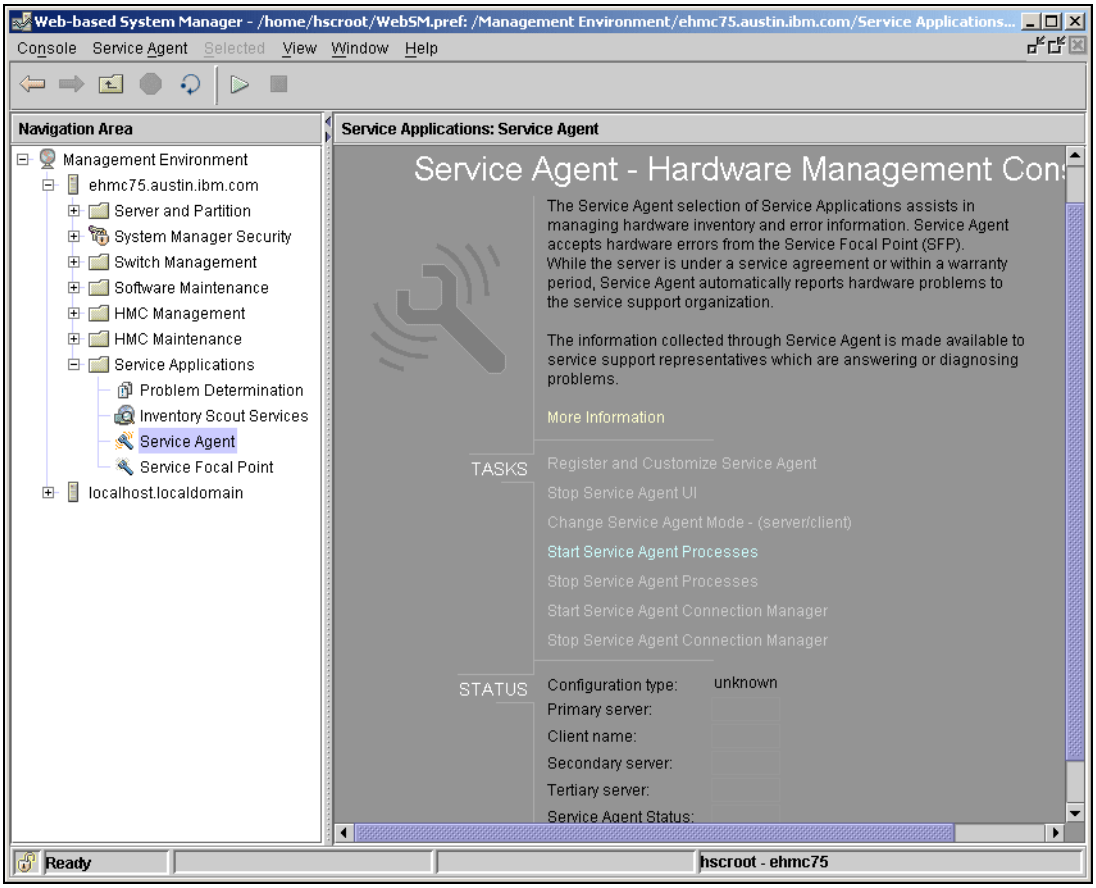

Figure 6-16 HMC main menu: First visit

2. Service Agent detects whether it has been activated. If not, you see the window shown in Figure 6-17. Verify or update the information and select **Continue**.

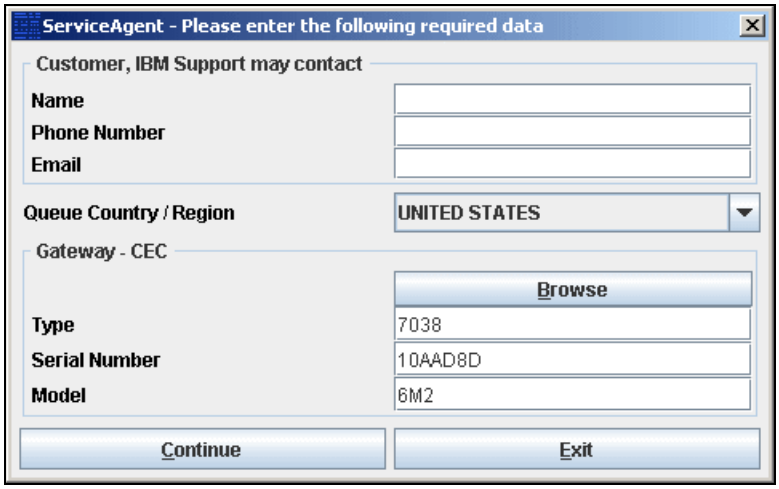

Figure 6-17 HMC Service Agent activation wizard (Part 1 of 2)

3. In the next window (Figure 6-18), enter the requested information and click **OK**.

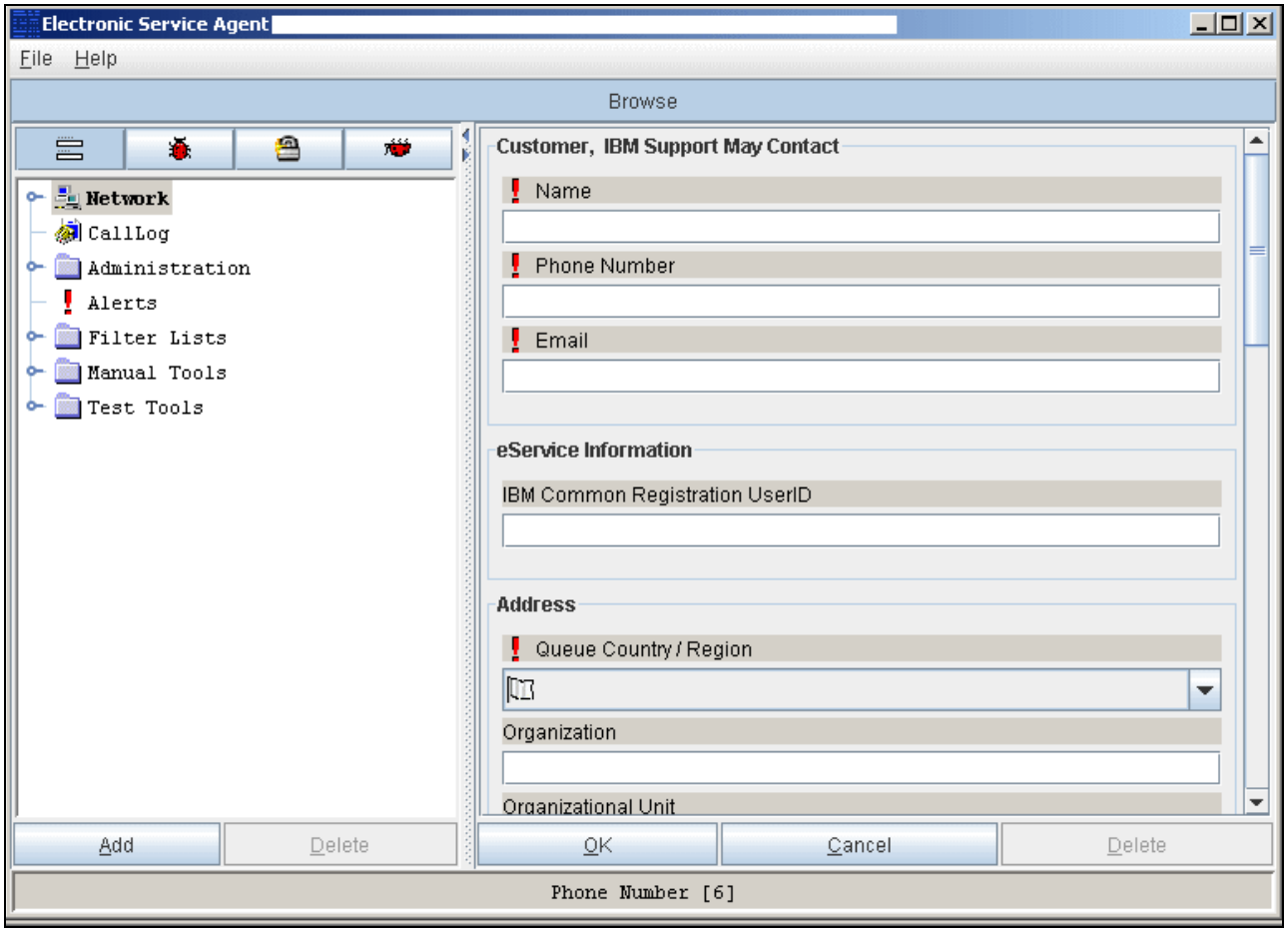

Figure 6-18 HMC Service Agent activation wizard (Part 2 of 2)

6.3.2 Maintenance

To invoke the Service Agent GUI, in WSM, you select Service Applications → Service Agent. The Service Agent menu (Figure 6-19) shows the two main sections: TASK and STATUS. The TASK section is where you start and stop the processes, change the function or update the host name, and access the user interface. The STATUS section informs you about how this HMC is configured (server/client) and the status of the Service Agent processes.

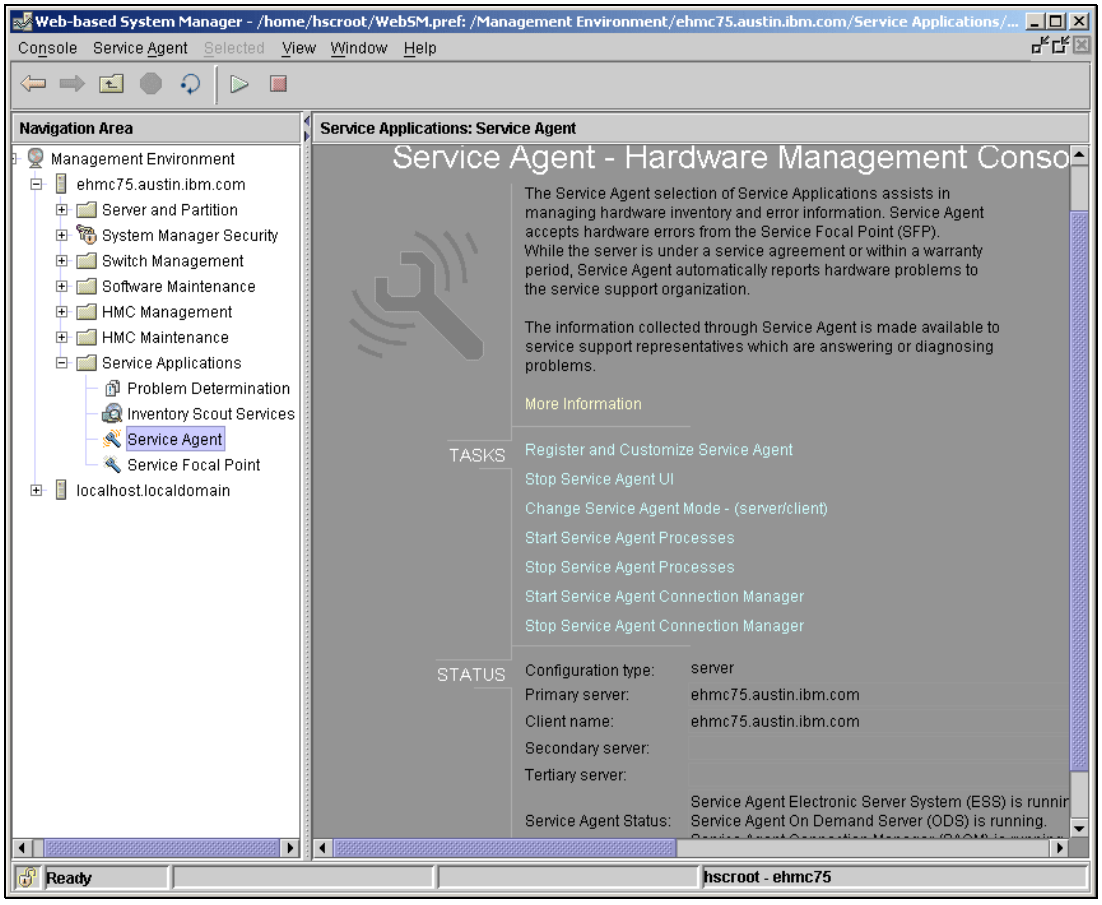

Figure 6-19 HMC main menu with Service Agent expanded

6.3.3 Stopping and restarting a process

You have the flexibility to stop and restart Service Agent on the gateway server.

Stopping Service Agent

When you stop the Service Agent, you end the normal Service Agent daemon processes and remove the inittab entries. If the SACM is running on this gateway server, it is not stopped automatically. To stop it, complete these tasks:

1. On the HMC User Interface, select **Service Agent Panel**.
2. Select **Stop Service Agent processes**.
3. Select **Stop SACM**, if appropriate.

Restart Service Agent

After you stop the Service Agent daemons, you restart them on both the gateway server and the client machines. If the SACM is stopped on the gateway server, you can restart it from the menu.

The Service Agent menu selections create new inittab entries for the ESS and ODS daemons, which restart the gateway HMC Service Agent processes. The ODS daemon is started on a client HMC and automatically starts a SACM process, if present. To restart Service Agent, follow these steps:

1. On the HMC User Interface, select **Service Agent Panel**.
2. Select **Start Service Agent processes**.

7

Electronic Service Agent for Linux on @server p5 and pSeries

This chapter provides background and information about the Electronic Service Agent for Linux on the @server p5 and pSeries platforms. This chapter is intended for pSeries system administrators who are familiar with, or have a working knowledge of, the Linux distribution for SuSE Enterprise Server as it pertains to basic operation of pSeries systems. You should also understand Linux system commands and the System Resource Controller.

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7.1 Electronic Service Agent

This is the first platform to deploy Service Agent for Linux. Your use of Linux in the pSeries environment is enhanced with Service Agent continuing to submit automatic hardware problems and monitoring the system inventory.

The following information is from the *Electronic Service Agent for Linux User Guide,* SC38-7109. Refer to this user guide for comprehensive text about the topics covered in this chapter. All the Service Agent GUI help text is taken directly from the user guide.

7.1.1 Overview of Service Agent for Linux on @server p5 and pSeries

In the overview of the pSeries environment shown in Figure 7-1, you see the client Linux environment has the potential for stand-alone and gateway configurations. All Service Agent communication flows through the Service Agent Connection Manager (SACM).

The choices of communication to IBM are either modem or Internet. The automatic problem submission path and the inventory paths are through secure firewalls into appropriate IBM databases. You use Electronic Services Web site to view the Service Agent inventory.

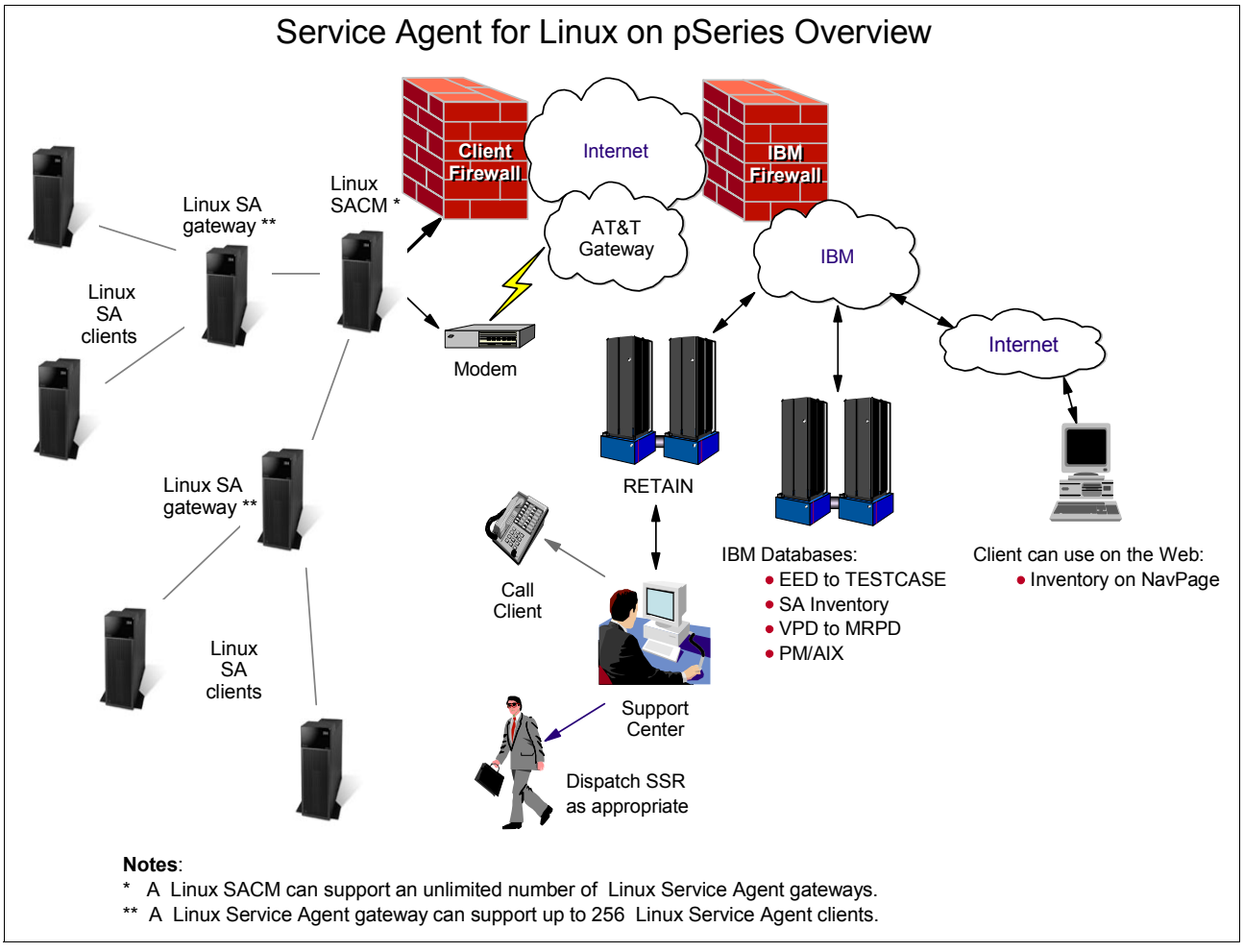

Figure 7-1 Linux Series Service Agent overview

7.1.2 Machine types and models that are eligible for Service Agent

Electronic Service Agent for Linux on pSeries supports SUSE Linux Enterprise Server (SLES) Version 8 with Service Pack 3 and SLES Version 9. The machines must be under IBM warranty or maintenance contracts.

7.1.3 Service Agent Connection Manager

The SACM is a stand-alone process that can be configured to communicate with IBM using an existing Internet connection or modem. This application is installed with the Service Agent code on the Service Agent gateway. However, it can be installed as stand-alone code on any supported platform. It may exist in a stand-alone machine and can support multiple Service Agent gateway connections.

Figure 7-2 shows the features that enable enhanced security and offer the following advantages:

- Provide firewall support using either a proxy service or provide for traffic to pass through a Network Address Translation (NAT) device such as a Cisco PIX Firewall
- Provide a single point of exit from the client environment
- Ensure Inter-Enterprise Security (IES) compliance

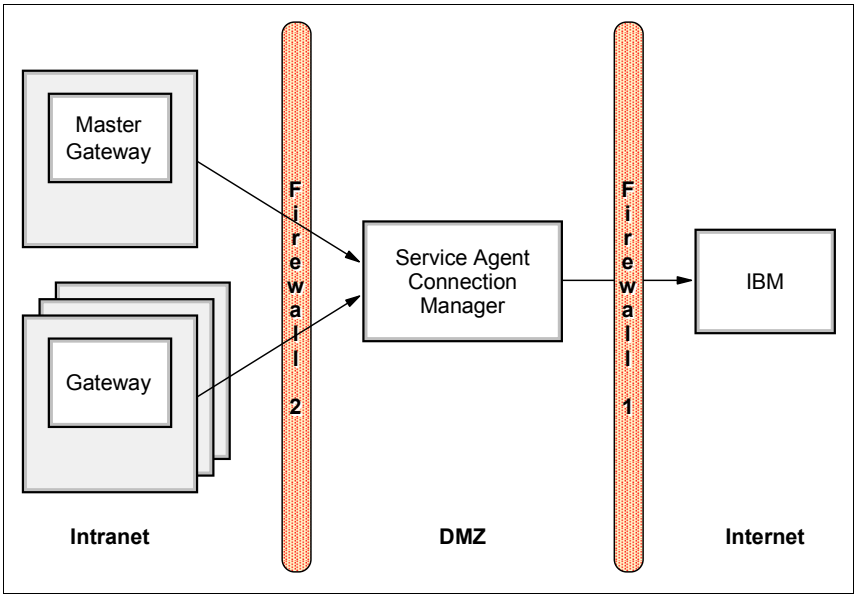

Figure 7-2 Sample configuration using firewalls and SACM

7.2 Planning, installation, and activation

Early planning may save you valuable time and should minimize aggravation later. Understanding your information technology (IT) environment and planning the activation of the Service Agent application makes your time more efficient and effective.

Figure 7-3 shows an overview of the activation steps.

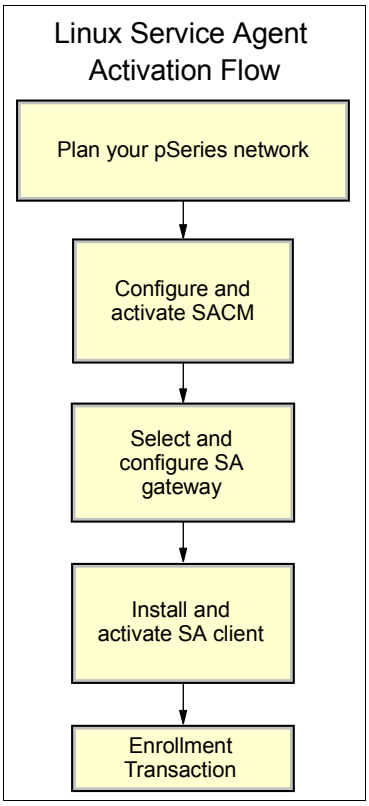

Figure 7-3 Linux Service Agent activation flowchart

7.2.1 Planning

Four major components or processes make up the Service Agent application:

- The *Electronic Server System* (ESS) process runs only on the Service Agent gateway server or servers. It handles all requests for data input and retrieval from the centralized database.
- The *On Demand Server* (ODS) process runs on both the gateway and monitored machines. It handles all Service Agent monitoring and communication activities for that host. The ODS retrieves and sends data to the ESS process as necessary.
- *Service Agent Connection Manager* is a stand-alone process that is configured to communicate with IBM using an existing Internet connection or modem. It may exist on any Linux on POWER in your environment and can support multiple Service Agent gateways concurrently.
- The *User Interface* or Interfaces is available for both basic or advanced users, via text or GUI. The Basic User Interface is designed to allow a first-time user to configure the Service Agent system with as little user input as possible, using predefined defaults for a single-level network environment. The Advanced User Interface provides advanced

functions and enables customization of the system as well as configuration for complex systems and multilevel networks.

Use the following planning checklist to help you through the process.

- Plan your Service Agent environment to determine the placement and number of Service Agent gateways and location of monitored machines.
- Plan your Service Agent Connection Manager.
  - Determine which host is best.
  - SACM can be installed on any pSeries Linux host. It does not have to be a Service Agent gateway.
  - SACM can be controlled by a designated master Service Agent gateway.
  - Communication to and from the SACM host can pass though secure firewalls.
  - SACM can support an unlimited number of gateways.
  - A gateway can support up to 256 clients.
- Ensure that the administrator who is installing Service Agent has root authority on all target machines.
- If you are on the pSeries platform using POWER4+™ technology, ensure that your Linux installation is SLES 8.1 SP3 or later.
- If you are on the pSeries platform using POWER5™ technology, ensure that your Linux installation is at SLES 9.0 or later.
- Java is required on all Service Agent machines (SACM, gateway, and client). All supported Linux on POWER™ distributions come with a version of Java installed by default. Service Agent is equipped to use the default Java installation.
- Install the appropriate IBM Linux Service Aids Toolkit. This toolkit provides the utilities required to service pSeries systems running IBM supported versions of the Linux operating system. Service Agent requires you to download the packages from the Linux Service Aids Toolkit Web site and install them in this order on all Service Agent machines.

  a. librtas
  b. ppc64-utils
  c. lsvpd
  d. IBMinvscout
  e. diagela
  f. System Resource Controller (SRC)

  You can find more information about the toolkit at:

  http://techsupport.services.ibm.com/server/lopdiags
- Install IBM diagnostics on every monitored machine.
- Make sure the pSeries machine type, model, and serial number are listed with an IBM RETAIN® database.
- Ensure that the gateway server has remote File Transfer Protocol (FTP), SSH, or both types of capabilities for all monitored machines.
- Determine whether you are using an existing Internet connection or modem.
- Prepare for e-mail alerts. The host under which the e-mail alert is placed must have e-mail service available locally or network attached.
- Obtain managed systems information. This includes the host name, machine type, model, serial number, and processor ID. Service Agent attempts to discover the information after

the host name is provided. If the auto-discovery process is unsuccessful, manually start the installation.

7.2.2 Installation

Service Agent is comprised of several RPM format packages. Each component needs to be installed in the correct location. Table 7-1 lists the items to install.

Table 7-1 Linux Service Agent components

Component	RPM name
Service Agent Connection Manager	svcagent.cm-1.0.0-x.ppc64.rpm
Service Agent Gateway	svcagent.server-1.0.0-x.ppc64.rpm
Service Agent Client	svcagent.client-1.0.0-x.ppc64.rpm
Service Agent Localized Messages	svcagent.msg.<locale>-1.0.0-x.ppc64.rpm For example: svcagent.msg.en_US-1.0.0-x.ppc64.rpm
Service Agent Help	svcagent.help.<locale>-1.0.0-x.ppc64.rpm For example: svcagent.help.en_US-1.0.0-x.ppc64.rpm

Download Service Agent code from the IBM FTP site to your machine by following these steps:

1. Log in (or su) to root on a pSeries.
2. To access the tmp directory, type:

   ```
   cd /tmp
   ```
3. Access the FTP site:

   ```
   ftp ftp.software.ibm.com.
   ```
4. Login to the server. For your login name (user ID), type `anonymous`. For your Login password, type your e-mail address.
5. Set the file transfer type to binary. Type:

   ```
   bin
   ```
6. Access the path where the Service Agent code is stored. Type:

   ```
   cd /linux/service_agent_code/LINUX
   ```
7. Retrieve the Service Agent code:

   ```
   get svcagent_ppclinux.tar
   ```
8. Retrieve the Acrobat format of the Service Agent User's Guide:

   ```
   get svcUG_ppclinux.pdf
   ```
9. End your FTP session:

   ```
   quit
   ```
10. Transfer the file, in binary if necessary, to the machine that you want to be the Service Agent gateway server.
11. Untar the svcagent_ppclinux.tar file into the directory from which you want to install it.

You have now created an sa directory that contains all of the installp modules.

The majority of clients choose to install the Service Agent Connection Manager and Service Agent gateway on the same machine. The following steps illustrate this type of configuration.

1. Install SACM.
   a. Log onto your designated Service Agent Connection Manager as `root` or sign on using a root-authorized user ID.
   b. Change to the tmp directory or the location where you placed the Service Agent Connection Manager package:

      ```
      cd /tmp/sa
      ```

   c. Type the following command:

      ```
      rpm –i svcagent.cm-1.0.0-x.ppc64.rpm
      ```

   You have successfully installed Service Agent Connection Manager.
2. Install the Service Agent gateway.
   a. Log onto your designated Service Agent gateway as `root` or sign on using a root-authorized user ID.
   b. Change to the tmp directory or the location where you placed the Service Agent gateway (server) package.

      ```
      cd /tmp/sa
      ```

   c. Install the client package:

      ```
      rpm –i svcagent.client.1.0.0-x.ppc64.rpm
      ```

   d. Install the msg package:

      ```
      rpm –i svcagent.msg.en_US-1.0.0-x.ppc64.rpm
      ```

   e. Install the help package:

      ```
      rpm –i svcagent.help.en_US-1.0.0-x.ppc64.rpm
      ```

   f. Install the server package:

      ```
      rpm –i svcagent.server.1.0.0-x.ppc64.rpm
      ```

The Service Agent processes are not active when the initial installation has completed. You must configure Service Agent manually after you install the code components.

7.2.3 Activation

Service Agent for Linux is under the control of the SRC. The following steps explain how to configure your environment using the SRC.

Note: The SRC master daemon (/sbin/srcmstr) should be running. This line should be in /etc/inittab:src:2345:respawn:/sbin/srcmstr.

1. Start SACM.

   ```
   startsrc -s sacm
   ```

2. Configure the gateway system.

   ```
   /usr/svcagent/bin/sagatewayconfig
   ```

3. Accept the Customer License Agreement.
4. The gateway and client processes start on this machine.

5. To start Service Agent, type:

```
startsrc -g svcagent
```

Use the Advanced GUI for test and enrollment transactions.

7.3 Maintenance

Electronic Service Agent has two layers of operational menus: Basic and Advanced.

Basic menu

The Basic menu (Figure 7-4) displays several fields for customer contact information when you use the GUI for the first time. Complete these fields accurately, since IBM communicates with your company based on the information in these fields. Incomplete or inaccurate information delays a response from IBM.

When you complete the eService Information field with an IBM ID, that ID is authorized to view the Service Agent information on the Electronic Services Web site and use Premium Search queries.

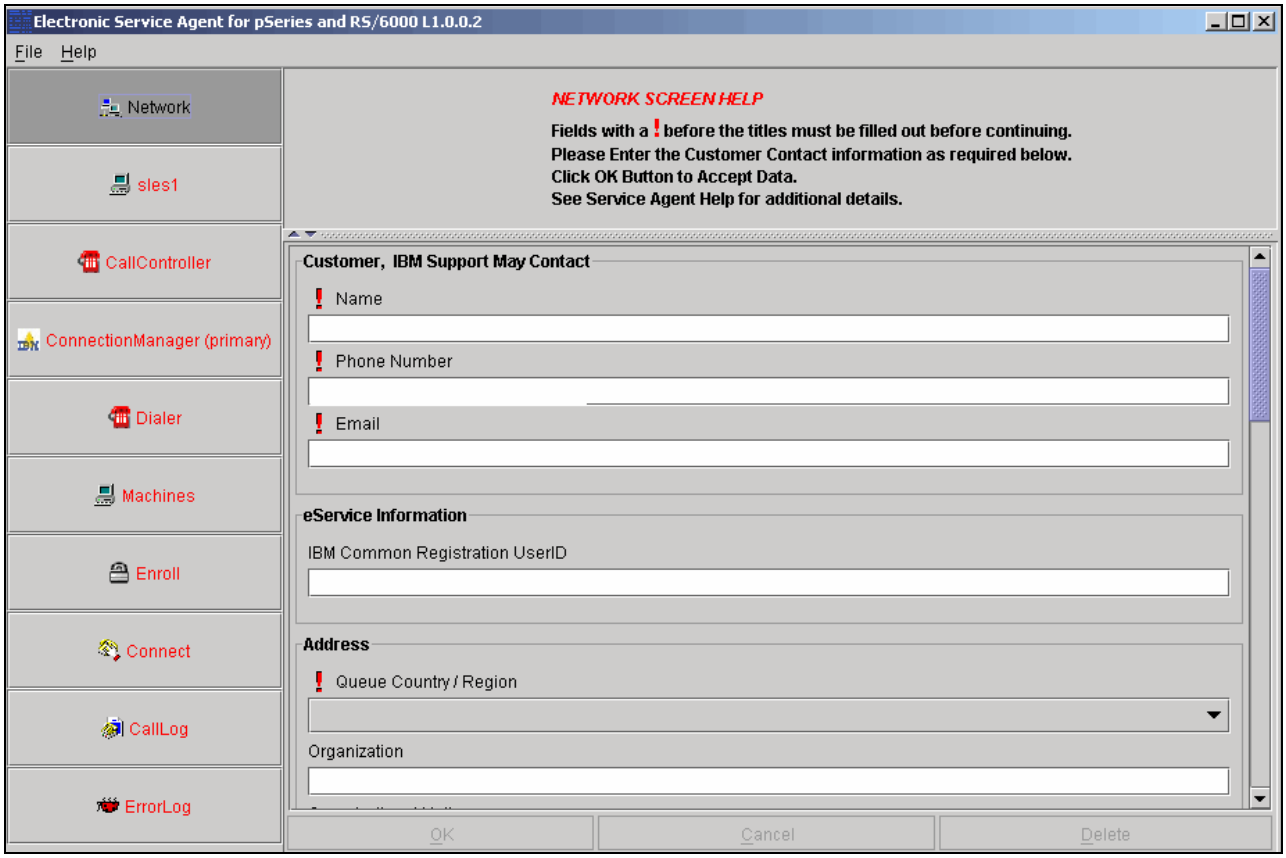

Figure 7-4 Service Agent for Linux: Basic menu

The Call Log shown in Figure 7-5 displays the results of connections and transmissions to IBM. By viewing this log during the dialing or initial phase of a connection, real-time updates are logged. After a connection is made and requests are transmitted, a summary count of the request types and whether they were transmitted successfully are logged. The summary counts overlay the description entries made during the connection phase.

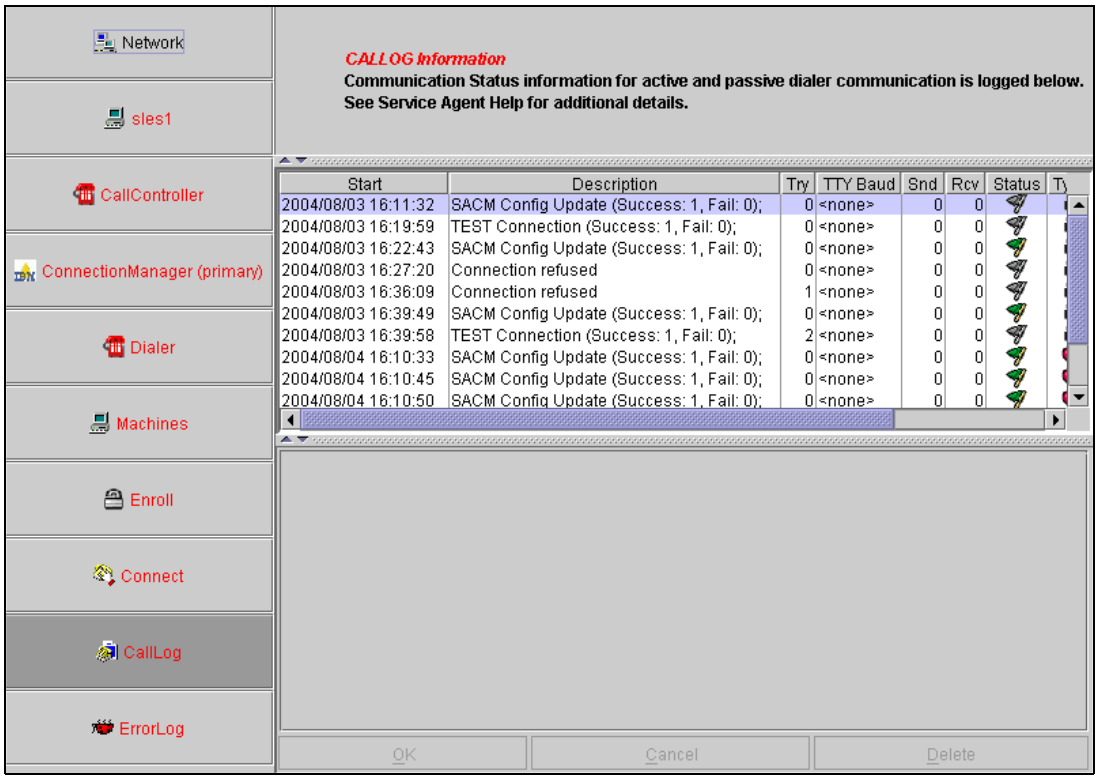

Figure 7-5 Service Agent for Linux: Basic menu calllog

Advanced menu

The Advanced menu (Figure 7-6) is used anytime after the gateway server host type and serial number fields are defined. All functions available within the basic interface are a subset of the functions available in the Advanced interface.

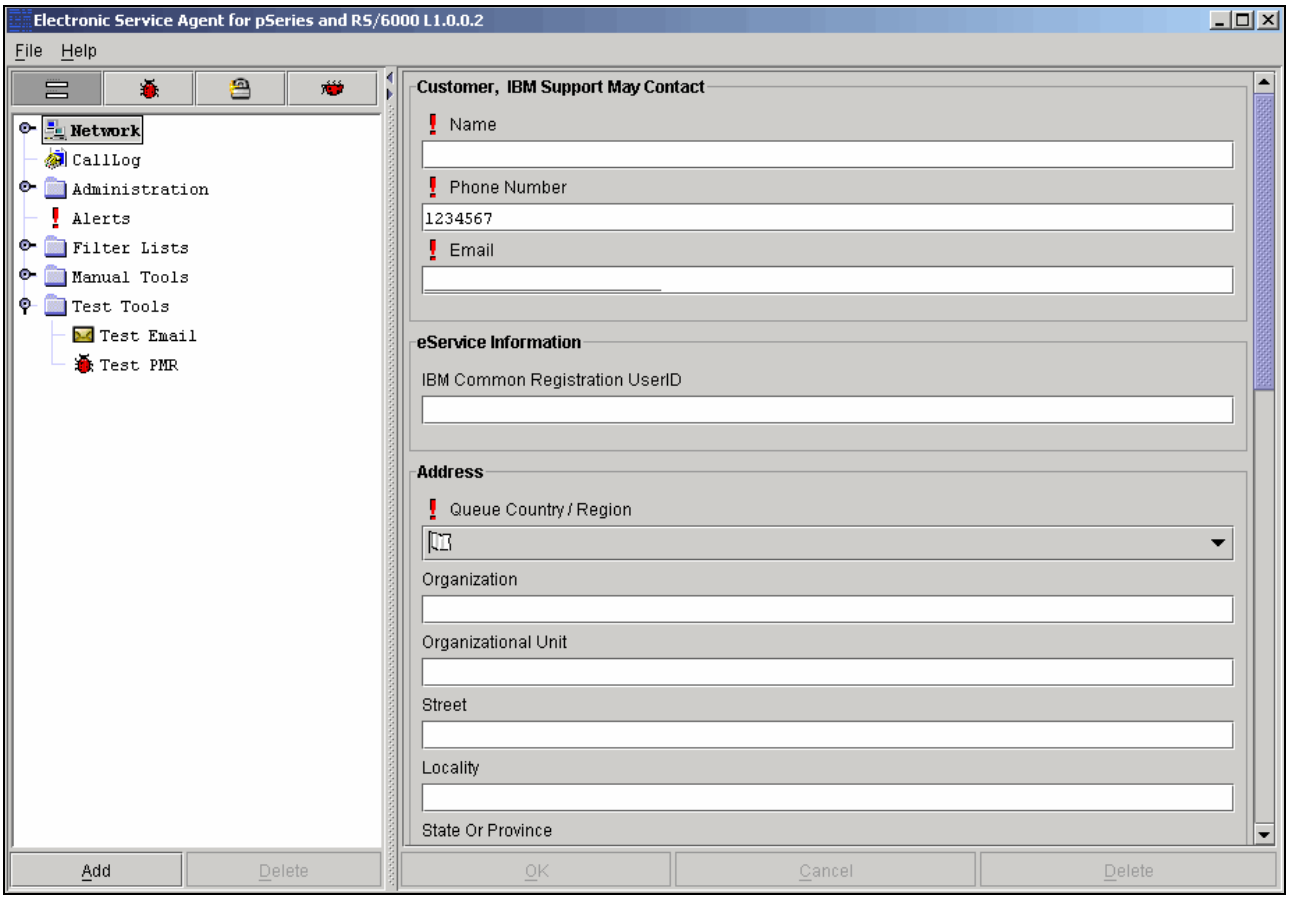

Figure 7-6 Service Agent for Linux: Advanced menu

7.4 Mixed partition configurations

The pSeries server and Electronic Service Agent can operate with a variety of configurations using AIX and Linux operating systems. The Service Agents do not communicate to each other. However, they can share a gateway SACM. Figure 7-7 shows a sample configuration.

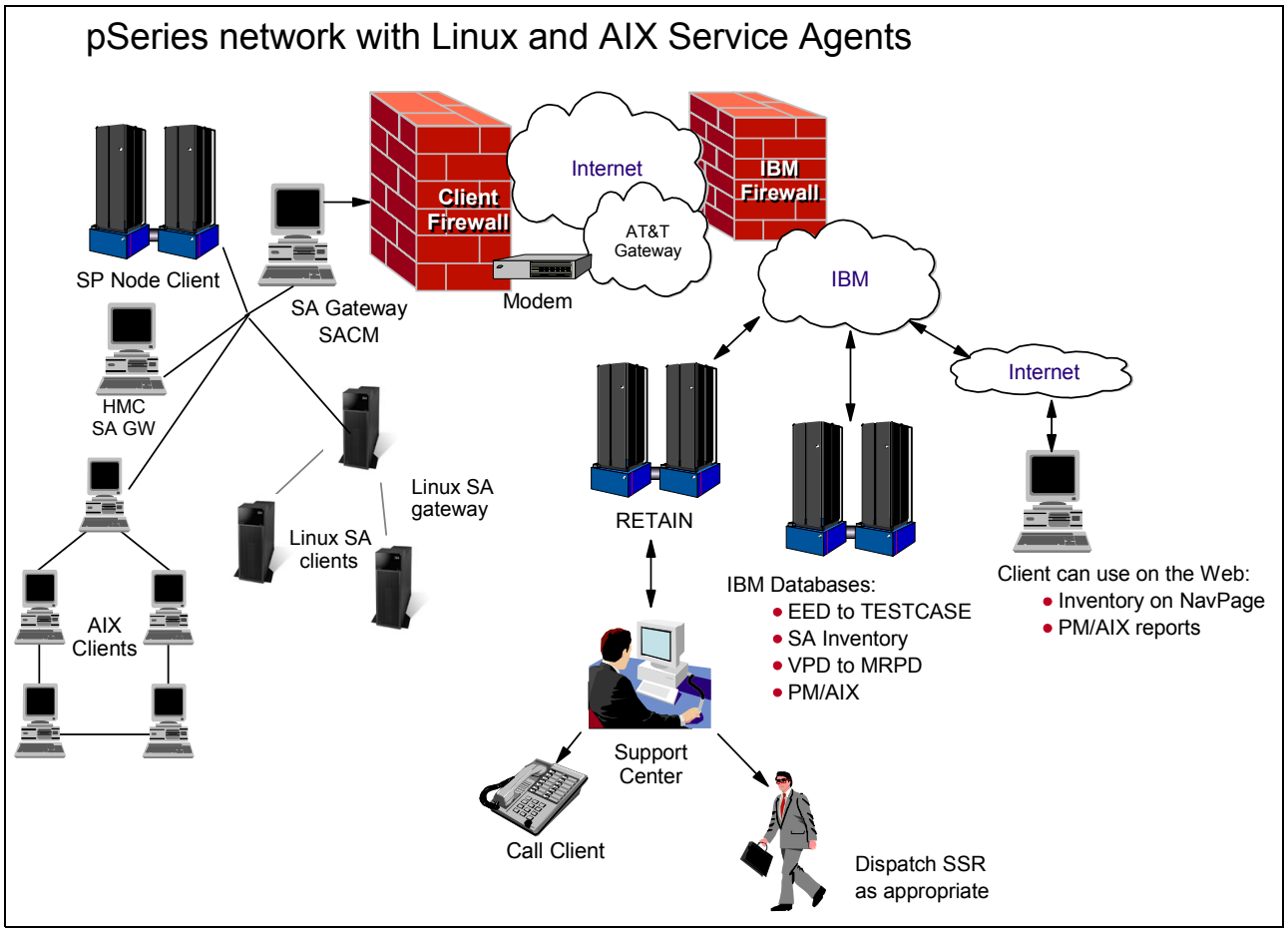

Figure 7-7 pSeries network with Linux and AIX Service Agents

The following samples describe how Service Agents can operate in these configurations.

Linux operating system (OS) environments have the following characteristics:

- Linux OS SACM
- Linux OS gateways
- Hardware problems automatically transmitted to IBM
- Hardware inventory collected and transmitted to IBM

AIX OS environments have the following items characteristics:

- AIX OS SACM
- AIX OS gateways
- Hardware problems automatically transmitted to IBM
- Hardware inventory collected and transmitted to IBM
- Software inventory collected and transmitted to IBM

8

Electronic Service Agent for xSeries

The IBM Electronic Service Agent for xSeries and Netfinity® is automatically shipped with the xSeries server without additional charge. It monitors events and transmits system inventory information to IBM. Service Agent has been available on the xSeries platform since 2000 for the IBM Director environment. It has been available for the stand-alone environment since 2003.

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8.1 Electronic Service Agent V3.1 for xSeries

Electronic Service Agent for xSeries is designed to reduce the downtime of xSeries servers when a hardware problem occurs or is predicted to occur. Detected hardware failures are sent immediately to the IBM Support Center. The regular schedule of inventory checks enables support representatives or client representatives to quickly check the machine's configuration.

Service Agent is designed to work an all models of the xSeries product line. Support for new xSeries servers is typically several months after General Availability of the new machines, to allow for proper testing. The following xSeries Service Agent User Guides have the most current listing for each release.

- *Electronic Service Agent for xSeries User Guide*, stand-alone

  ftp://ftp.software.ibm.com/pc/pccbbs/pc_servers_pdf/esa_3_1_user_guide.pdf

- *Electronic Service Agent for xSeries User Guide, Director Extension*

  ftp://ftp.software.ibm.com/pc/pccbbs/pc_servers_pdf/esa_de_3_1_user_guide.pdf

Automatic hardware problem detection

Service Agent both detects and generates hardware problem events. The events that Service Agent detects are known as *base events*. Service Agent is pre-configured to detect specific hardware failure base events that are generated by managed systems that are enabled and enrolled for Service Agent.

Service agent detects the following types of events:

- UMS events
  - CIM.Director Agent Events.Fan
  - CIM.Director Agent Events.Memory PFA
  - CIM.Director Agent Events.PFA
  - CIM.Director Agent Events.Power Supply
  - CIM.Director Agent Events.Processor PFA
  - CIM.Director Agent Events.Server Power Supply
  - CIM.Director Agent Events.SMART Drive
  - CIM.Director Agent Events.Temperature
- RAID events
  - Storage.ServeRAID™ Controller.State.Failed
  - Storage.ServeRAID Controller.Logical Drive.State.Critical
  - Storage.ServeRAID Controller.Logical Drive.Rebuild.Failed
  - Storage.ServeRAID Controller.Logical Drive.Synchronize.Failed
  - Storage.ServeRAID Controller.Physical Drive.State.Failed
  - Storage.ServeRAID Controller.Physical Drive.PFA Error.Yes
  - Storage.ServeRAID Controller.Enclosure.State.Failed
  - Storage.ServeRAID Controller.Enclosure.Fan.Failed
  - Netfinity Storage.ServeRAID Controller.Enclosure.Power Supply.Failed
  - Storage.ServeRAID Controller.Enclosure.Temperature.Failed
- Service processor events
  - MPA.Component.Power Subsystem.Over Power
  - MPA.Component.Fan.Failed
  - MPA.Component.Power Supply.Failed
  - MPA.Component.Fan.PFA
  - MPA.Critical.Hard disk drive
  - MPA.Critical.Multiple Fan Failure

- MPA.Critical.Power Failure
- MPA.Critical.Power Failure.Failed
- MPA.Critical.Temperature
- MPA.Critical.Voltage
- MPA.Critical.Voltage regulator module failure
- MPA.Environmental.Temperature
- MPA.Environmental.Voltage
- MPA.Non-critical.Single Fan Failure
- MPA.System.PFA

Machine inventory collection

The inventory function of Service Agent for xSeries collects system information about memory, hard disk drives or RAID drives, peripheral component interconnect (PCI) adapters, communication information, and environments, such as power, fan and temperature. You can view machine inventory at the following Web site, using your IBM ID for authentication:

https://www.ibm.com/support/electronic

8.1.1 Stand-alone environment

The stand-alone environment on the xSeries platform (see Figure 8-1) has the ability to work with any system management tool. The Service Agent has all the modules needed to monitor, gather, and report events and inventory. Version 3.1 includes the following features:

- Secure Internet access to IBM via the Hypertext Transfer Protocol Secure (HTTPS)
- Restricted use of Service Agent to users with Windows Administrative rights
- Access via Service Agent to IBM through an authenticating proxy
- Easy installation and configuration via wizards
- New history panel with historical details of significant system events, including enrollment history, inventory history, and Problem Management Record (PMR) history
- Extensions to Service Agent's major functions that enables other system to submit problems and inventory to IBM
- Windows 2003 support for Internet connection only

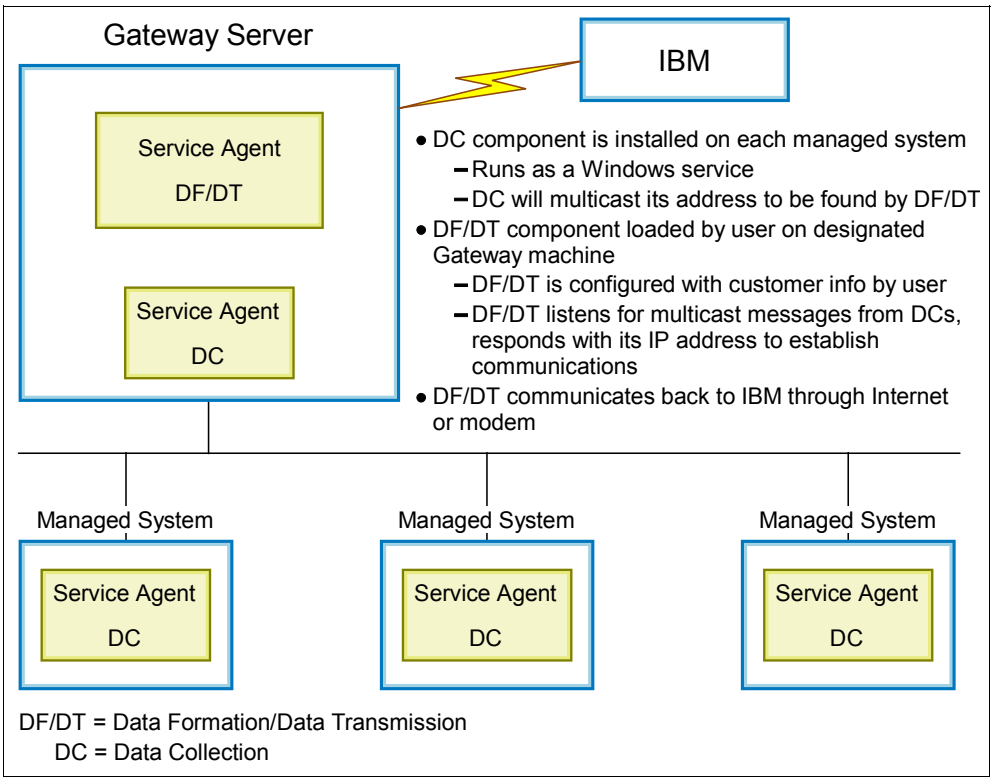

Figure 8-1 Stand-alone overview

8.1.2 IBM Director Extension

Service Agent is an extension to IBM Director management application. Install Service Agent on your IBM Director Central Management Server as shown in Figure 8-2. You do not need to install Service Agent on each of your managed systems.

This agent monitors your xSeries and Netfinity servers for hardware errors. Hardware errors that meet certain criteria for criticality are reported to IBM. Service Agent also administers hardware and software inventory collections, and reports inventory changes to IBM. All information is transmitted via secure link and stored in a secure IBM database.

The information technology (IT) administrator should have a working knowledge of IBM Director when working with Service Agent. If a deeper knowledge of IBM Director is required, refer to:

http://www-1.ibm.com/servers/eserver/xseries/systems_management/director_4.html

The features for Service Agent V3.1 are:

- Support for IBM Director Versions 4.11 and 4.12
- Windows 2003 operating system support (Internet only)
- Support for an extended number of managed system (server) models

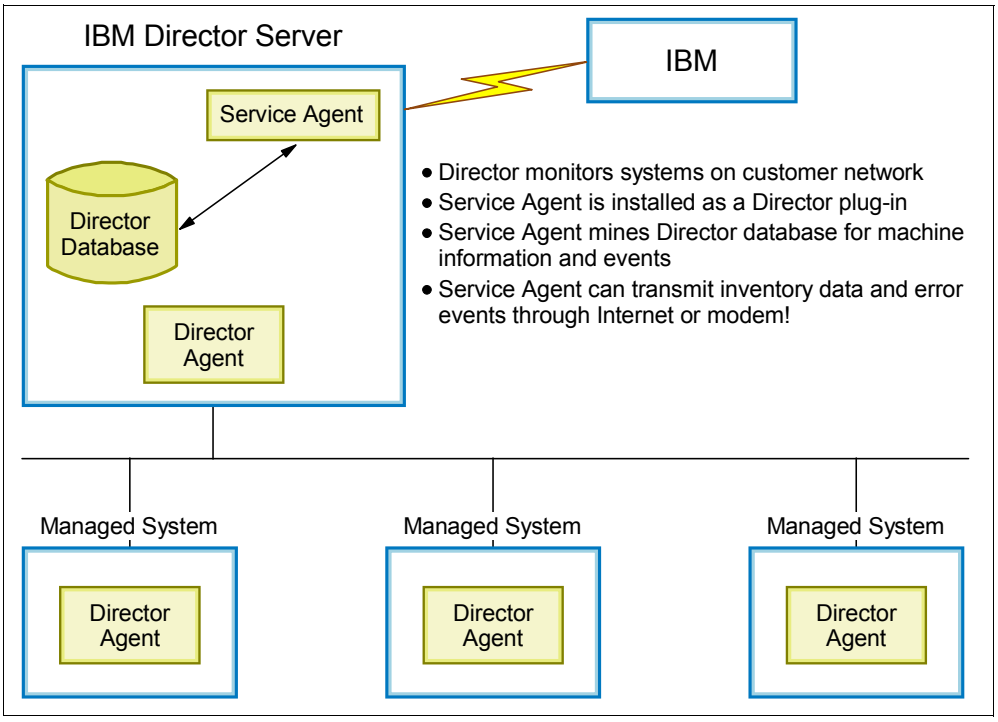

Figure 8-2 IBM Director Extension view

8.2 Stand-alone: Planning, installation, and activation

The Service Agent code is available for download from this Web site:

`http://www.pc.ibm.com/qtechinfo/MIGR-40870.html`

Note: Service Agent automatically detects if it is being installed in a stand-alone or an IBM Director environment. If it is in an IBM Director environment, the user must ensure that Service Agent is installed on the IBM Director Management Server.

Figure 8-3 shows the general task flow of the Service Agent installation and activation process.

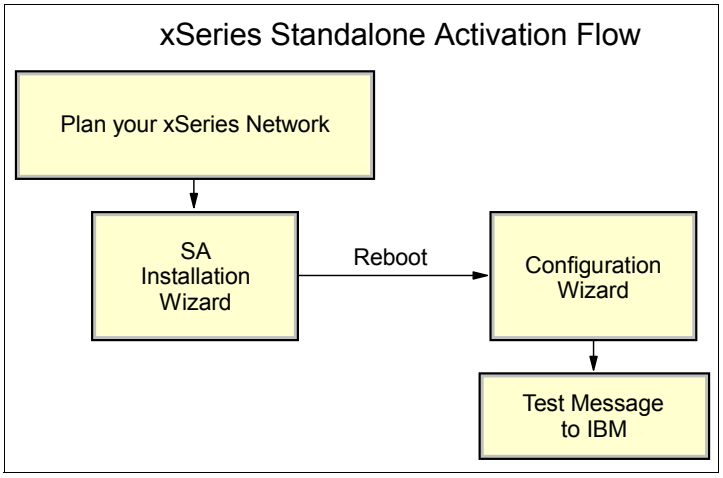

Figure 8-3 Stand-alone activation flowchart

8.2.1 Planning

Early planning can save you valuable time and prevent confusion and delays later. Understanding how to set up the Service Agent application to best cover your IT environment should make the experience much more effective.

The following list gives you the basic items to consider and assist in your decision making.

- Ensure that the person who is installing Service Agent has Windows Administrative authority.
- Ensure that the gateway machine and all monitored servers are under warranty or an IBM Service agreement.
- Ensure that you supplied accurate contact information when configuring Service Agent.
- Configure the location details of your gateway and managed systems accurately. If you record your gateway location details incorrectly, IBM service delivery is delayed. Similarly, if you record your managed systems' location details incorrectly, IBM service representatives are not dispatched to the correct site.
- Install the gateway machine *before* you install the Data Collectors.

Table 8-1 lists the system requirements to consider for the stand-alone system.

Table 8-1 System requirements for a stand-alone environment

Operating system	► Windows 2000 with Service Pack 3 (SP3): Dial-up and Internet connections ► Windows 2000 Server SP3: Dial-up and Internet connections ► Windows 2000 Advanced Server SP3: Dial-up and Internet connections ► Windows 2000 Datacenter Server SP3: Dial-up and Internet connections ► Windows 2003 Server Enterprise Edition: Internet connection only ► Windows 2003 Datacenter Edition: Internet connection only
Microprocessor	x86 (Pentium® or higher)
Hard disk space	110 MB available. The gateway requires 100 MB, plus 10 MB per Data Collector
Modem or Internet access	Required for gateway machine
Monitor	Super VGA monitor with the screen resolution set at 800x600 (minimum), small font setting and 256 colors

8.2.2 Installation

The installation wizard leads you through the installation process, beginning with the window shown in Figure 8-4.

Note: You must install and configure the gateway before you restart Windows.

1. In the first wizard window that opens, select your installation type. In this example, we select **Gateway**. Click **Next**.

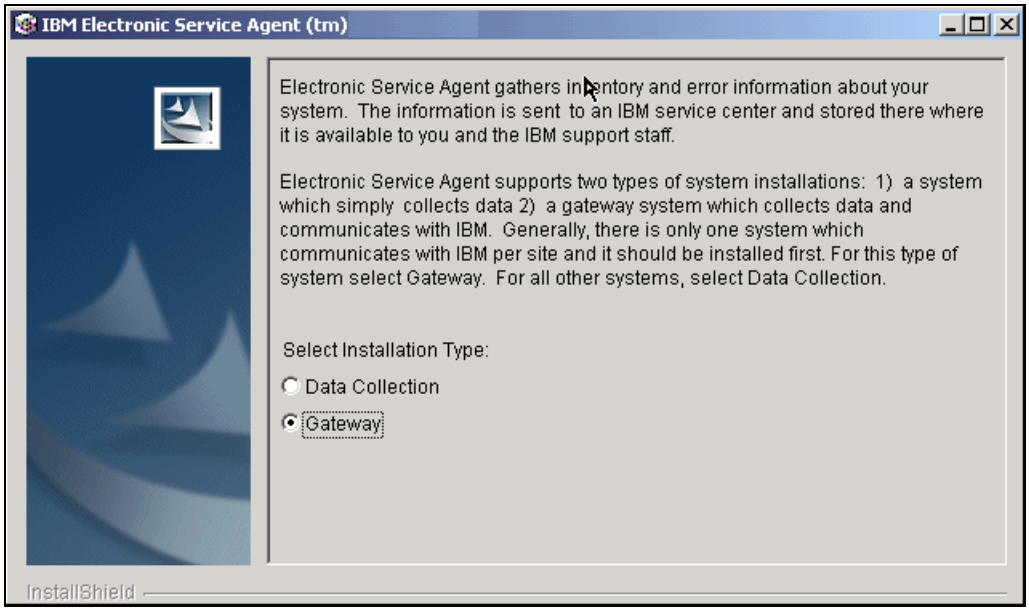

Figure 8-4 Stand-alone installation wizard

2. In the next window, select the preferred language to view the Service Agent license agreement from the drop-down list. Click **Next**.
3. Select the option to accept the terms of the agreement. Click **Next**.
4. The next window prompts you to specify the directory placement of the Service Agent code. Accept the default or select **Browse** for a new location. After you specify a location, click **Next**.
5. The next window confirms your directory selection. If you agree, click **Next**.
6. Installation Wizard begins to install Service Agent. The wizard shows a window with a progress bar so you can see the progress of the installation.

7. When Service Agent is installed in the directory that you indicated, the system restart window (Figure 8-5) displays. It indicates that a restart is needed to configure. Click **Next** to begin the restart.

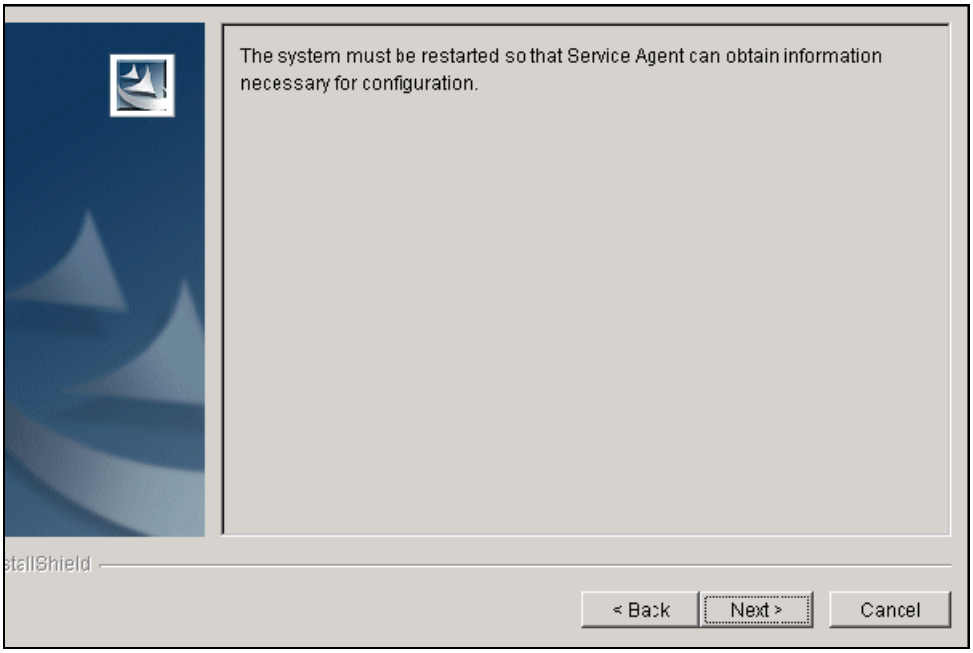

Figure 8-5 End of installation wizard

8. After the system restarts, the installation process begins the configuration program. You see the System Status panel of the configuration program where you can either configure the gateway or cancel the configuration program and do that task at another time.

   Note: You are not able to configure data collection systems if the gateway machine is not properly configured.

9. To continue installation on the rest of the machines in your enterprise, run the installation wizard for each machine. This time select **Data Collection** on the first wizard window (Figure 8-4). Continue your selections and restart at the end of each installation.

10. After the installation is complete on the last (or only) machine, you see the System Status panel (Figure 8-6) of the configurator program. Select **Automatically detect Gateway System** to have the Data Collector configure itself, if the Data Collector is on the same network as the gateway. If the Data Collector is on a separate network, select the **Manual** option. Select **Next**.

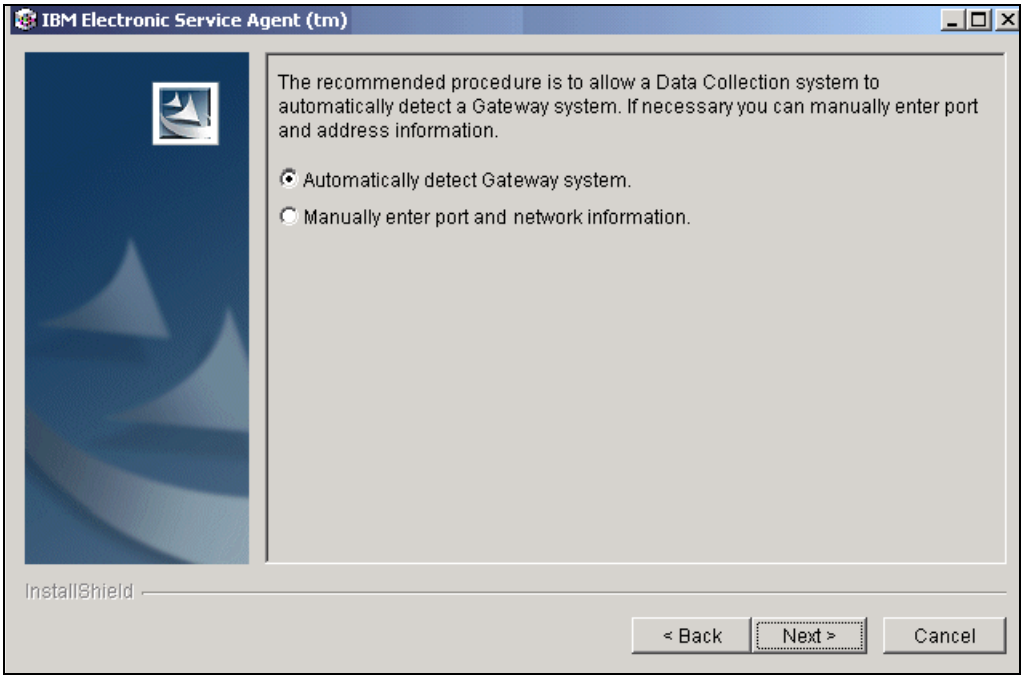

Figure 8-6 Data collection configuration panel

11. When the task is completed, you see a completion display (Figure 8-7). To close the wizard, click **Finish**.

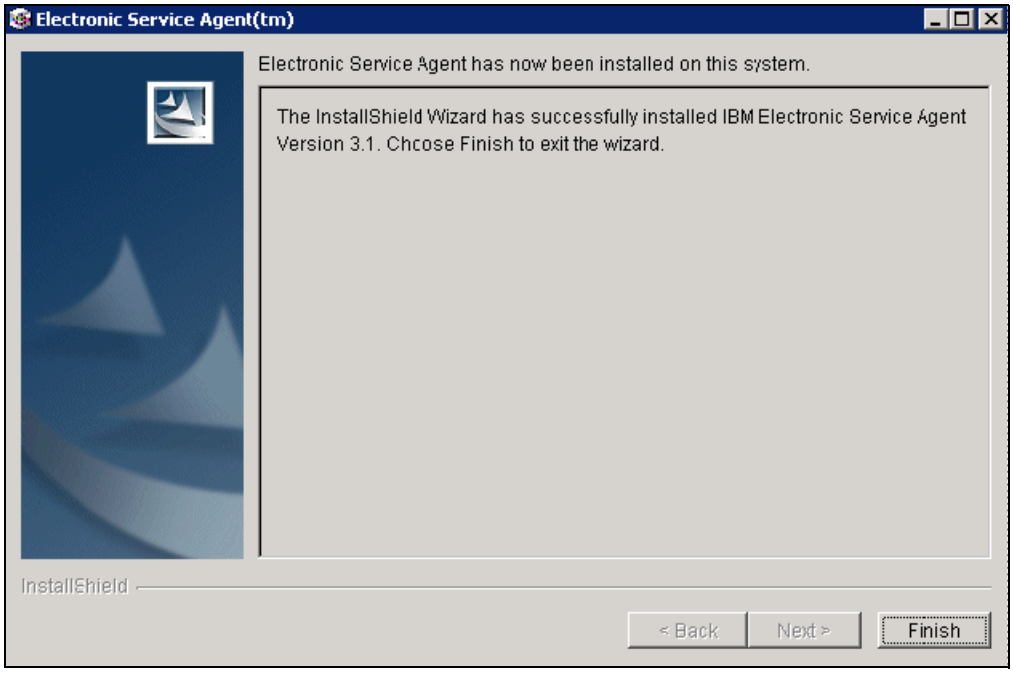

Figure 8-7 Service Agent configuration completion window

8.2.3 Upgrade information

To upgrade an existing Service Agent, follow these steps:

1. Download the new Service Agent files.
2. Install Service Agent V3.1 on your gateway. You must upgrade the gateway before you upgrade the Data Collectors.

   A down-level gateway cannot handle transactions for the new release, but a current gateway can handle down-level Data Collector transactions.
3. Invoke the installation wizard. It detects that you have an existing Service Agent.
4. Continue through the wizard until you see the panel (Figure 8-5 on page 108) that indicates a restart is needed.

8.2.4 Configuration and maintenance

The Service Agent Configuration Manager provides the user-controlled functions of Service Agent. These functions allow the ability to perform such actions as naming the callback contact and identifying where a monitored machine is located. If all monitored machines are located in one subnet, have the same call back contact, and are in the same physical location, only the gateway needs to be configured, since all monitored machines default to inheriting the gateway configuration.

If any monitored machines have different Service Agent configurations, such as being located in a different location than the gateway, the Configuration Manager must be run on the monitored machine. Service Agent configuration contains the following information:

- System Status: Reports the current status of Service Agent and allows you to start and stop it
- Company: Contains information about your company
- Contact: Contains information about who is responsible for this system
- Location: Describes where this system is located
- Communications: Contains information about the network setup
- Advanced: Helps you define who can view the data
- History: Provides historical details about significant system events
- General: Shows system details, “about” information, and legal notices

Figure 8-8 shows the Windows location of Service Agent Manager.

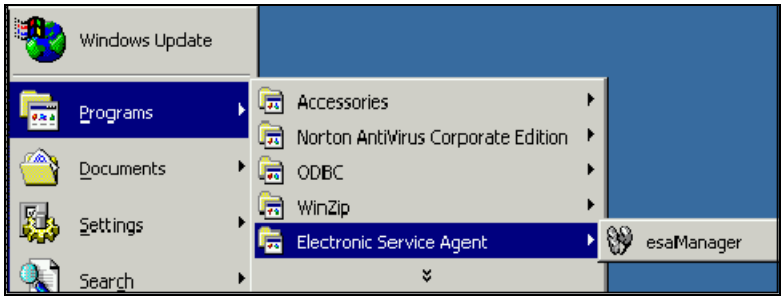

Figure 8-8 Windows location of Service Agent Manager main menu

Figure 8-9 shows the Main menu view of Service Agent Manager. There are four main sections with multiple tab selections in each section.

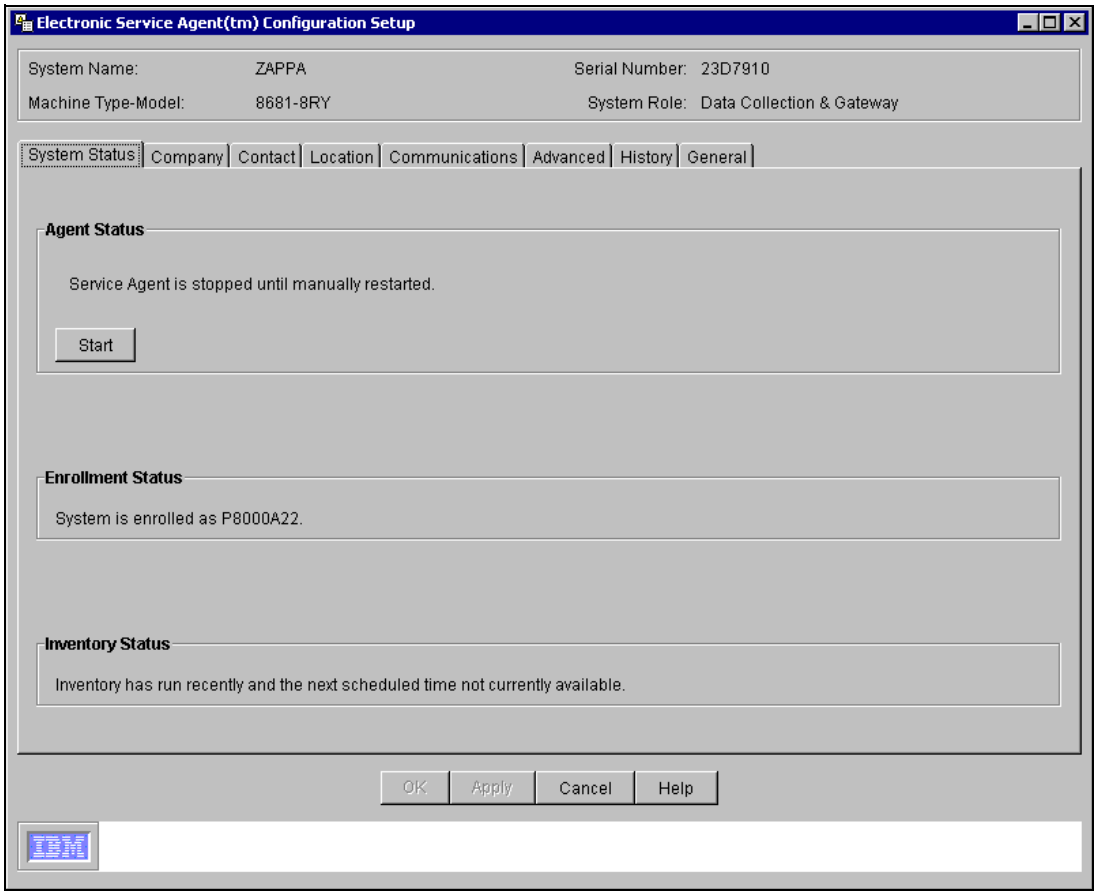

Figure 8-9 Service Agent Manager main menu

On the Advanced tab (Figure 8-10), you can register two IBM IDs to view the Service Agent inventory information and to use that information during Premium Search queries.

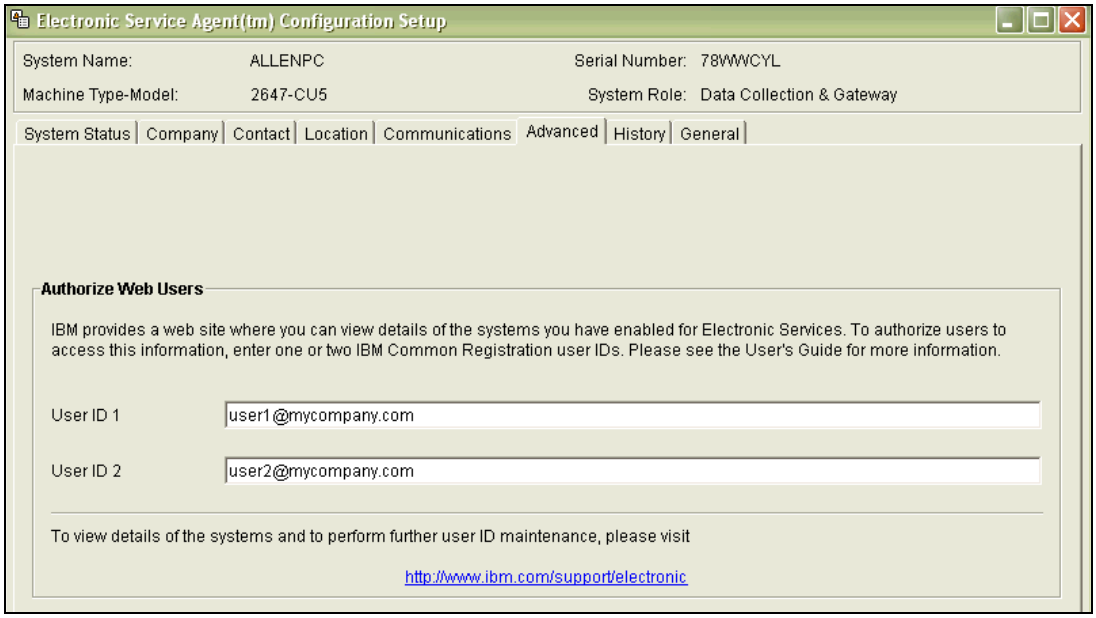

Figure 8-10 Electronic Service Agent for xSeries: Advanced tab

The History tab (Figure 8-11) provides historical details about significant system events, such as enrollment history, inventory history, and Problem Management Report (PMR) history.

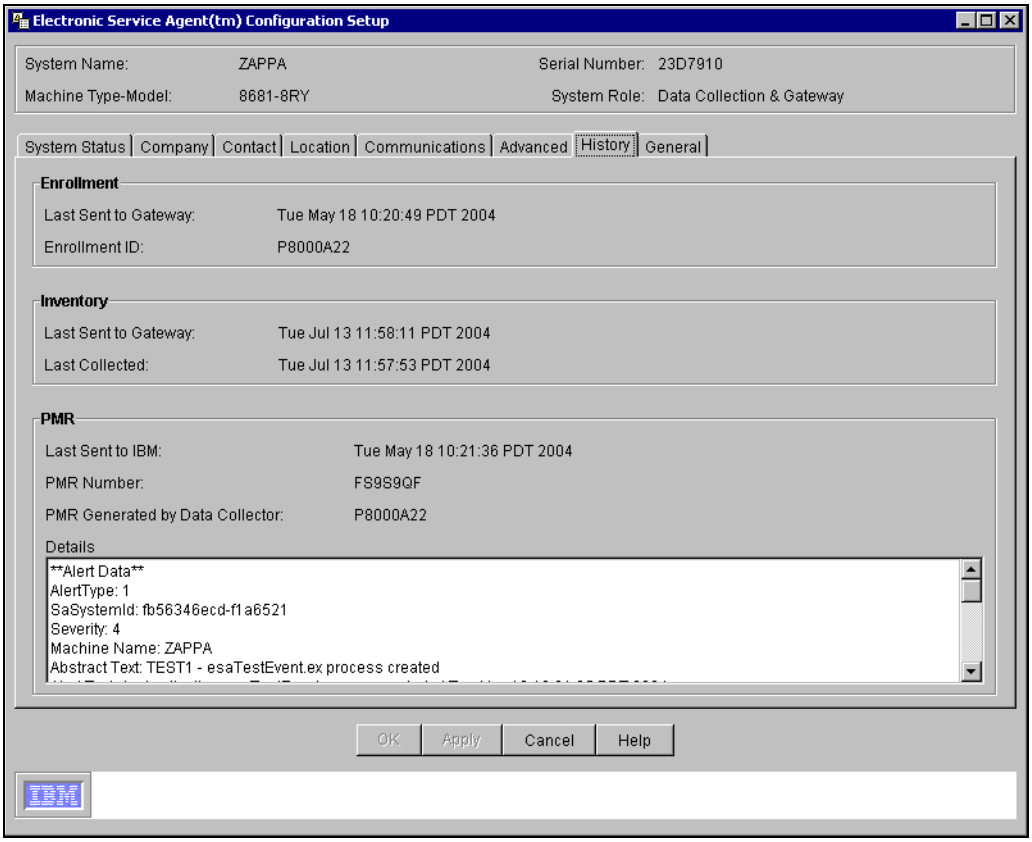

Figure 8-11 Service Agent menu: History tab

The items on the History tab include:

- Enrollment
  - Last Sent to gateway is the locale-sensitive time stamp of when the enrollment status was sent to the Service Data Receiver (SDR), the facility on the IBM server that receives messages from Service Agent.
  - Enrollment ID is the ID with which the Service Agent is enrolled with IBM.
- Inventory
  - Last Sent to gateway is the locale-sensitive time stamp of when the inventory status was last sent to IBM.
  - Last Collected is the locale-sensitive time stamp of when the inventory was collected.
- PMR
  - Last Sent to IBM is the locale-sensitive time stamp of when a PMR was last sent to IBM.
  - PMR Number is an identifying number from IBM for the last submitted PMR. Give this number to the IBM Support Representative when calling IBM about a problem.
  - PMR Generated by Data Collector is the number of the system that generated the PMR. In most cases, the number is the same as the number that appears in the message `System is enrolled as nnnnnnnn` when you enroll a machine with the SDR. However, if a system is generating PMRs on behalf of another system, this number can be different from the number of the system you are on.
  - Details of the last submitted PMR is only available on the gateway User Interface and is not translated.

8.2.5 Uninstall process

Before you uninstall Service Agent, be sure that your machine is not a gateway being used by one or more Data Collectors. Uninstalling the program disables Service Agent on those machines.

To uninstall Service Agent, use the Windows Add/Remove programs function:

1. From your Windows desktop, select **Start** →**Control Panel**.
2. In the Control Panel window, select **Add/Remove Programs**.
3. In the Add/Remove Programs window, select **IBM Director Agent** and click **Remove**. You must remove this program first.
4. In the same window, select **IBM Electronic Service Agent** and click **Remove**.

8.3 Director Extension: Planning, installation, and activation

Figure 8-12 shows the activation process overview for the Service Agent in the Director Extension environment.

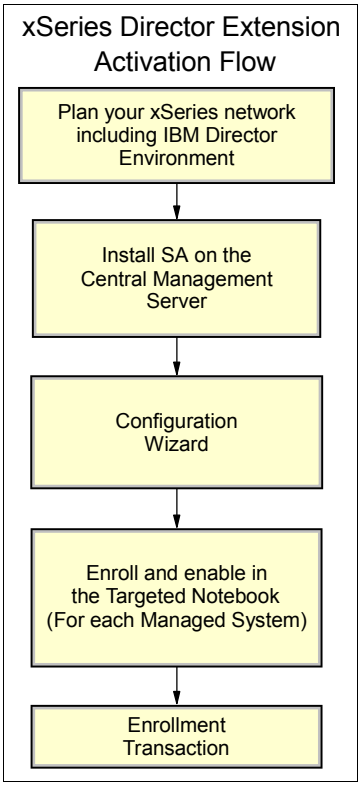

Figure 8-12 Director Extension activation flow

8.3.1 Planning

Early planning may save you valuable time and prevent errors later. Understanding how to set up the Service Agent application to best cover your IT environment should make the use of Service Agent much more effective.

Consider the following basic items to assist in your decision making.

- Check to see that your systems are supported.
- Service Agent Version 3.1 is an extension to IBM Director Version 4.11 or 4.12 systems management application.

  IBM Director Version 4.11 or 4.12 is a prerequisite to install Service Agent V3.1. But first, ensure that your network's Central Management Server, Management Console, and managed systems are configured with the correct processor speed and adequate amounts of free disk space, virtual memory, and RAM. Refer to your IBM Director version 4.11 or 4.12 user documentation for detailed system requirements.
- You must have a SupportLine contract (or similar contract) for IBM Director and Service Agent support.
- Ensure that the latest drivers are installed on the hardware.
- If using a modem for communicating with IBM, ensure that your IBM Director Central Management Server has access to a modem that is capable of dialing and making a connection at a minimum of 56 Kbps.

- If your Central Management Server is running Windows 2000 Server or later, or Advanced Server with Service pack 2, any modem that you install is automatically configured for Routing and Remote Access Service (RRAS).
- Install the IBM Director Management Server component on your Central Management Server. When you install the IBM Director Management Server, the IBM Director Management Console and IBM Director Agent are also installed. Ensure that you select Director Extension in the Director Agent Configuration display.
- Install the IBM Director Agent on each of your managed systems.
- If you upgrade from Electronic Service Agent V3.0, then you must also upgrade the version of IBM Director that is running on your Central Management Server and Remote Director Management Consoles to Version 4.11 or 4.12. Electronic Service Agent Version 3.1 can be used in conjunction only with IBM Director Version 4.11 or 4.12.

8.3.2 Upgrading from older versions of Service Agent and Director Extension

To upgrade Service Agent V2.1 or V3.0 to V3.1, you must first upgrade IBM Director to Version 4.11 or 4.12. Service Agent Version 3.1 can be used in conjunction only with IBM Director Version 4.11 or 4.12.

1. Double-click your **setup.exe** file to run the setup program and begin the installation process.
2. In the Language Option window, select the language option that you want to use. Click **OK**.
3. The Question window informs you that the current installation program has detected an existing version of Service Agent. Click **Yes** to update the existing version.
4. In the Electronic Service Agent Setup window, click **Next** to continue.
5. In the next window, if you accept the terms and conditions of the License Agreement, click **Yes**.
6. In the following window, if you accept the terms and conditions of the Communications Charges Agreement, click **Yes**.
7. In the Question window, click **Yes** to view the README file, and then click **Next**.
8. In the Information window, click **OK**.
9. In the Setup Complete window, select **Yes** to restart your system now.
10. Click **Finish** to complete the installation.

8.3.3 Installation, configuration, and activation

To install Service Agent on your IBM Director Central Management Server, follow these steps:

1. Double-click your **setup.exe** file to run the setup program and begin the installation process.
2. In the Language Option window, select the language option that you want to use. Click **OK**.
3. In the Electronic Service Agent Setup window, click **Next** to continue.
4. In the next window, if you accept the terms and conditions of the License Agreement, click **Yes**.
5. In the following window, if you accept the terms and conditions of the Communications Charges Agreement, click **Yes**.
6. In the Question window, click **Yes** to view the README file, and then click **Next**.

7. In the Setup Complete window, select **Yes** to restart your system now.
8. Click **Finish** to complete the installation.

After you install Service Agent, you must configure several settings before you can use it to monitor your managed systems and perform any other administrative tasks. The Configuration Wizard leads you step-by-step through the configuration process.

To launch the Configuration Wizard, follow these steps:

1. Start IBM Director.
2. In the Tasks list (Figure 8-13), double-click the **Electronic Service** task.

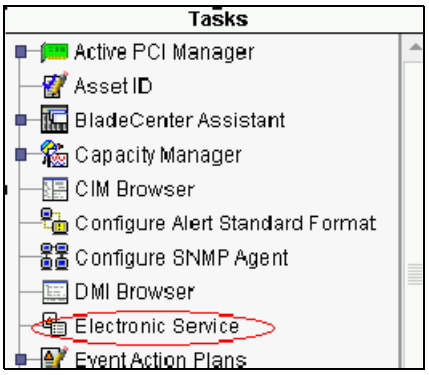

Figure 8-13 IBM Director Task menu

3. The Service Agent Configuration Wizard opens as shown in Figure 8-14. Click **Next**.

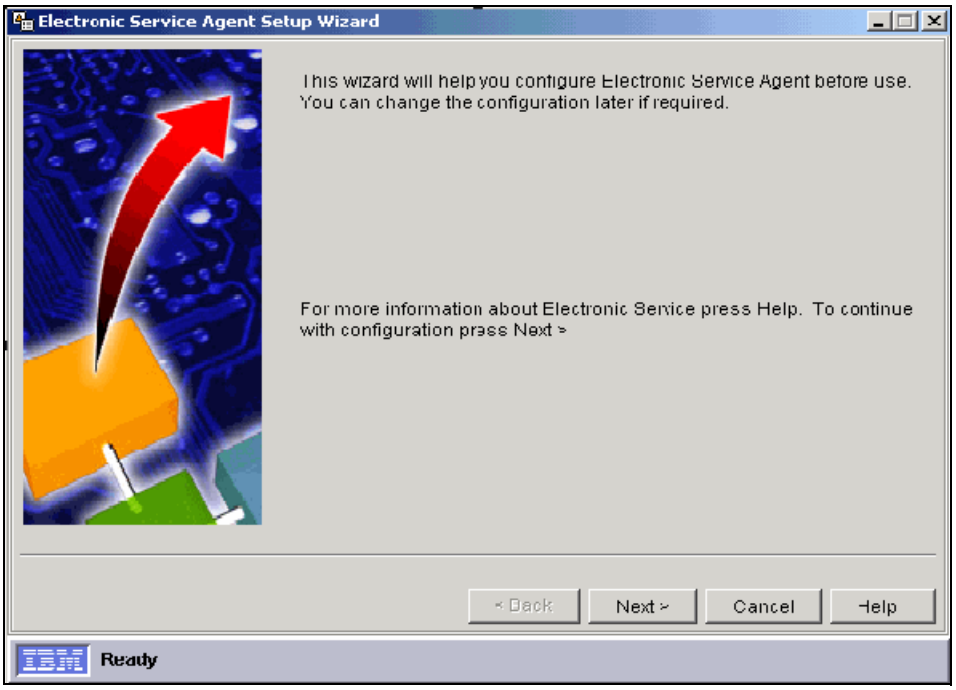

Figure 8-14 Service Agent configuration wizard

4. Select the country (region) in which the Central Management server is located. Click **Next**.
5. Select Modem or Internet connection. Then click **Next**.

6. Depending on your communication selection, the next screens configure modem or Internet connections. Click **Next** when you are done.
7. Complete your Company information fields of name, phone, and e-mail. Click **Next**.
8. Complete the Company contact information fields of name, phone and e-mail. Click **Next**.
9. Complete the machine location information fields of building, floor, office, city, postal code, state, or province. Click **Next**.
10. Automatic Upgrade selection configures Service Agent to download and apply program updates automatically when they are available. This check box is enabled by default. Deselect it if you do not want this feature. Click **Next**.
11. When you complete the wizard, you see the Finish Configuration window (Figure 8-15). Click **Finish**.

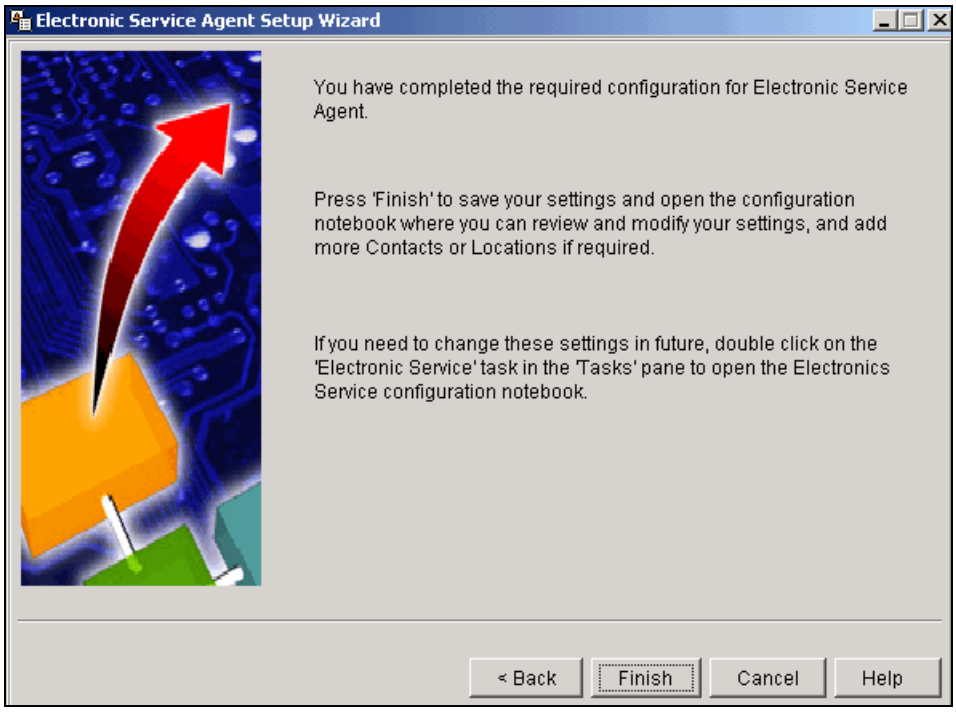

Figure 8-15 Wizard completion panel

The untargeted Service Agent Configuration Notebook is automatically displayed. Service Agent is now ready for you to perform administrative tasks.

After you properly install and configure Service Agent, you must enable and enroll each of your managed systems for Service before the agent can perform information-gathering operations and send Service Requests to IBM.

To enable one or more managed systems for Service Agent, follow these steps:

1. Open the targeted Electronic Service Agent Configuration Notebook. Launch the **Electronic Service Task** that is targeted at an individual managed system, group of managed systems, or multiple selected managed systems.
2. Open the **System** page.
3. Select **Enable for Electronic Service**. Click **Apply** or click **OK** to close the System page.

To enroll a managed system for Service Agent and complete an enrollment transaction, follow these steps:

1. Open the single targeted Electronic Service Agent Configuration Notebook. Launch the **Electronic Service Task** that is targeted at a single managed system.
2. Open the **Test** page.
3. Click **Enroll System**.
4. Wait for the Enroll System Test window to confirm that the transaction has been successful or follow the on-screen instructions. Click **OK** to close the Test page.

8.3.4 Maintenance

The Service Agent main menu is found under two possible locations, untargeted or targeted notebooks, in the Director Extension environment. They are launched from the IBM Director Console. Refer to your IBM Director online help for more information about using the IBM Director Console.

The Untargeted Notebook menu shown in Figure 8-16 shows several tab options.

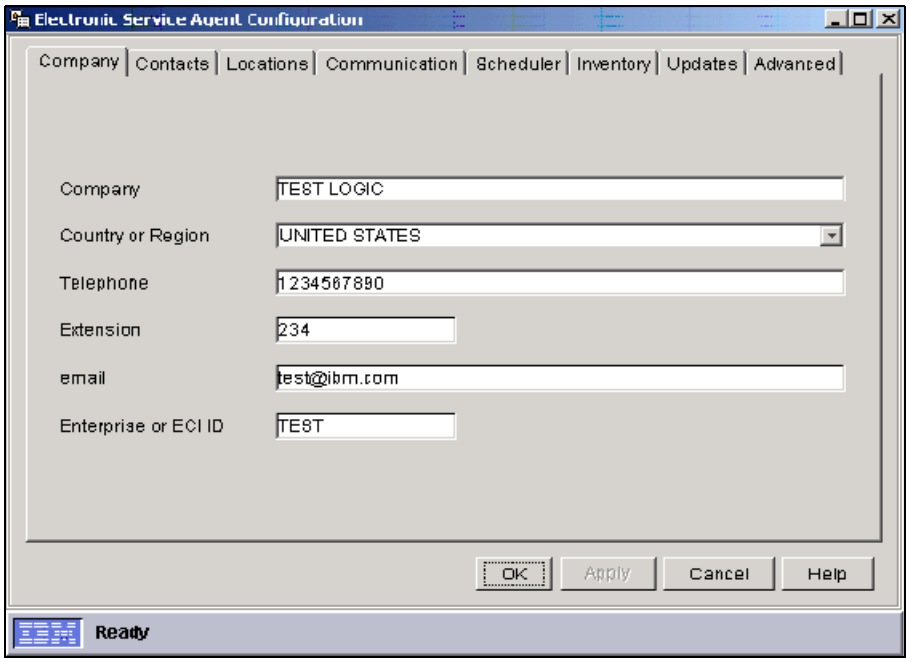

Figure 8-16 Untargeted Service Agent Main Menu

For example, on the untargeted menu, under the Advanced tab (Figure 8-17), you can register IBM IDs to view the Service Agent information and use in Premium Search queries.

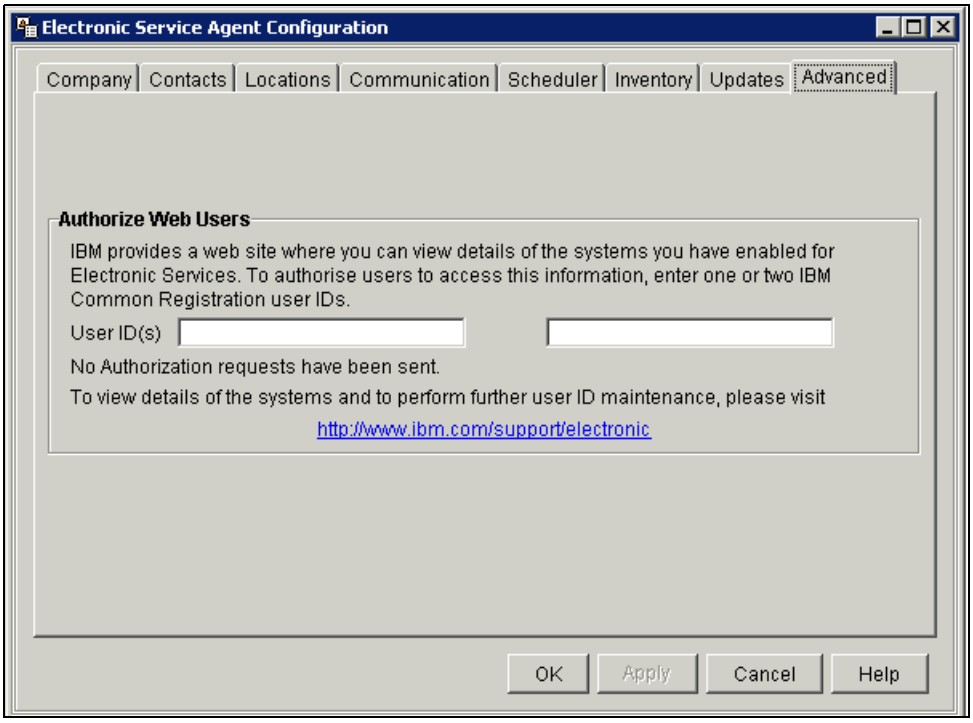

Figure 8-17 Director Extension Service Agent menu: Advanced tab

The targeted menu can be displayed for these configurations:

- Single targeted: Select a single managed system
- Multi-targeted: Select two or more managed systems
- Group targeted: Select a group of managed systems

The Targeted Notebook menu (Figure 8-18) has tabs for System, Services, Contact/Location, History, and Test (for use in single-targeted mode only).

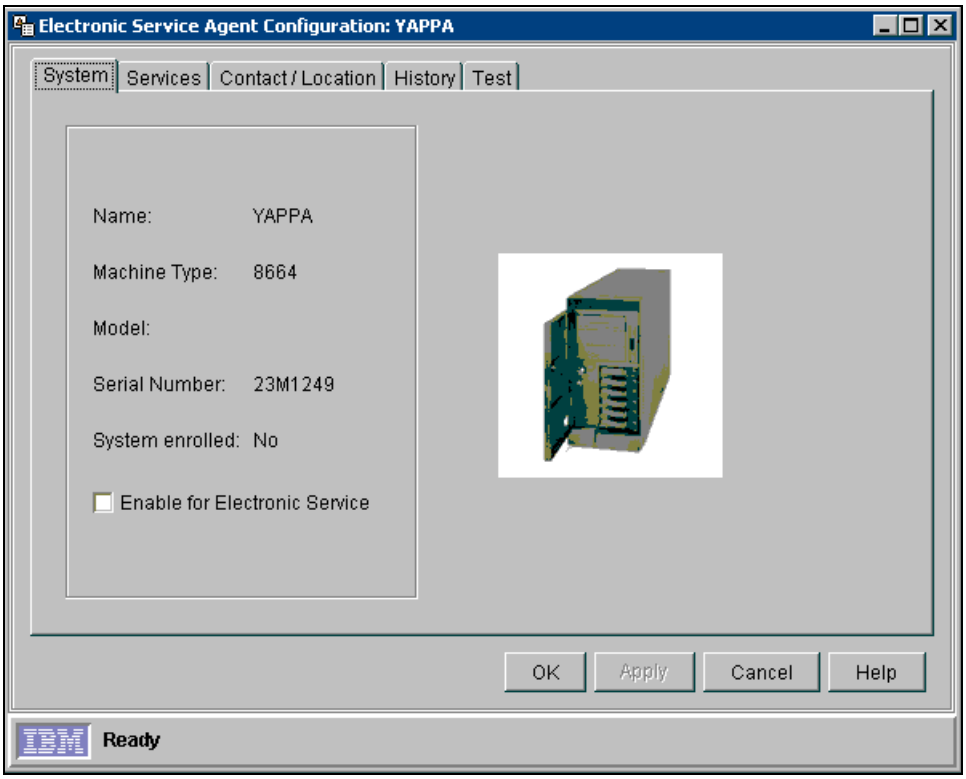

Figure 8-18 Targeted Service Agent Main Menu

8.3.5 Uninstall process

To permanently remove Service Agent from your server, use your administrator console:

1. From the Windows desktop, click **Start** →**Control Panel**.
2. In the Control Panel window, select **Add/Remove Programs**.
3. In the Add or Remove Programs window, select **Electronic Service Agent for xSeries and Netfinity Version 3.1**. Click **Add/Remove**.
4. In the Language Selection window, select the language of your choice from the pull-down list, and click **OK**.
5. In the Add or Remove Programs window, select **Electronic Service Agent for xSeries and Netfinity Version 3.1 - Director Extension**. Click **Add/Remove**.
6. In the Language Selection window, select the language of your choice from the pull-down list, and click **OK**.
7. In the Question window, click **Yes** to restart your computer now or **No** to restart your computer later. Then click **OK**.
8. On the Setup window, click **Finish**.

9

Electronic Service Agent for zSeries

The IBM Electronic Service Agent for zSeries is automatically shipped with thezSeries server without additional charge. It is designed to monitor events and transmit system inventory information to IBM. Service Agent has been available on the zSeries or S/390 platform since 1992 under the name Service Director and as Service Agent since 2000.

This chapter is intended for zSeries and S/390 system software administrators and support staff who are responsible for the installation, configuration, and activation of Electronic Service Agent for zSeries and S/390.

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9.1 Electronic Service Agent V3.0 for zSeries

Electronic Service Agent for zSeries is designed to reduce the downtime of IBM input/output (I/O) devices when a hardware problem occurs or is predicted to occur. Detected I/O hardware failures are sent immediately to the IBM Support Center.

Service Agent is also designed to transmit, on a scheduled basis, performance and service inventories to IBM. This information allows IBM support or authorized client representatives to obtain and view necessary information. Service Agent for zSeriesV1R2 is designed to work with S/390 Version 2.10 through z/OS Version V1.1 or higher.

Figure 9-1 shows a sample environment.

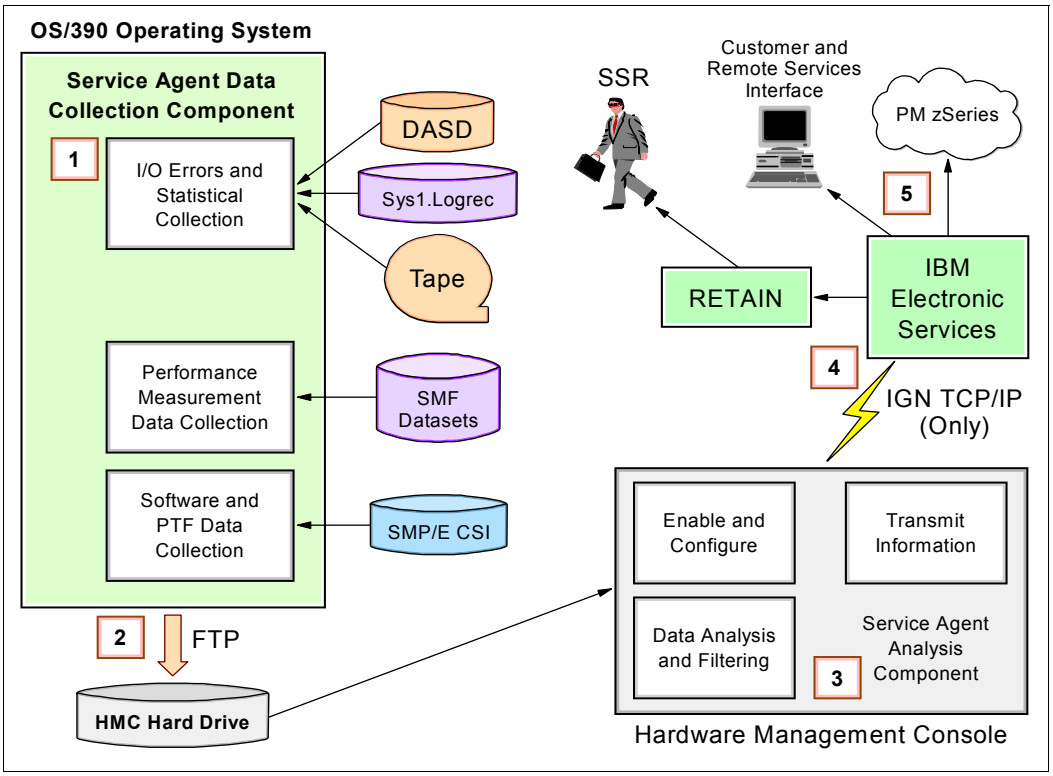

Figure 9-1 Service Agent for zSeries overview

9.1.1 Features and functions

The Service Agent for zSeries V1R2 includes the following features:

- Secure Internet access to IBM via Hypertext Transfer Protocol Secure (HTTPS)
- Electronic Service Agent access to IBM through an authenticating proxy
- Easy Hardware Management Console (HMC) configuration via wizards and windows
- Reporting of hardware problems and direct access storage device (DASD) and tape error data
- Automatic references to IBM Technical Support Knowledge Base System for additional fix information
- Notification to Support Center with problem report and extended information
- Media Maintenance reports for the IBM Support community to review

- Inventory collections:
  - Hardware I/O errors
  - Installed software and program temporary fixes (PTFs)
  - System Management Facilities (SMF) performance records for Performance Management for S/390 (PM/390) offering
- Periodic “heartbeat” to IBM

The hardware events that are captured include DASD errors and tape volume errors. The automatic problem reporting prevents hard crashes and extended down time in the account. Media maintenance recommendations are produced when Service Agent examines tape media and tape drives to determine if the media or drives are having a problem.

The Service Agent uses historical data and proprietary algorithms to determine if media should be replaced. Media recommended for replacement is highlighted on the Media Maintenance display that is visible to the IBM Support community. Replacing this media can prevent a hard fail and loss of time.

The machine inventory collection function of Service Agent for zSeries uses your specified System Modification Program Extended (SMP/E) Consolidated Software Inventory (CSI) inventories to collect the information. Inventory information is similar for DASD, tape drive, Enterprise System Connection Director (ESCON®), and software. Software inventory can be viewed by IBM support staff on an internal site. Authorized users can view it at the following Web site, using the IBM ID as authentication:

https://www.ibm.com/support/electronic

Activating and sending SMF performance data enables the Performance Management offering. For further information about all Performance Management offerings, see Chapter 4, “On demand use of Service Agent information” on page 33.

The following zSeries documents provide more detailed information:

- *SMP/E V3R3.0 for z/OS and OS/390: Messages, Codes and Diagnosis,* GA22-7770
- *Electronic Service Agent for zSeries and S/390 V1R2 LPS ,* GA38-0956
- *MVS™ System Management Facilities (SMF),* GC28-1753
- *OS/390 MVS JCL Reference,* GC28-1757
- *OS/390 MVS JCL User's Guide,* GC28-1758
- *S/390 Hardware Management Console Operations Guide, Application Version 1.4* GC38-0459
- *SMP/E for z/OS and OS/390: Commands,* SA22-7771
- *SMP/E for z/OS and OS/390: Reference,* SA22-7772
- *SMP/E for z/OS and OS/390: User’s Guide,* SA22-7773
- *OS/390 MVS Initialization and Tuning Reference,* SC28-1752
- *OS/390 UNIX System Services User’s Guide,* SC28-1891
- *OS/390 Resources Measurement Facility (RMF) User’s Guide,* SC28-1949
- *OS/390 Internet Library*

  http://www.ibm.com/servers/s390/os390/bkserv/
- *z/OS Internet Library*

  http://www-1.ibm.com/servers/eserver/zseries/zos/bkserv/

9.2 Planning

Early planning may save you valuable time and prevent aggravation later. Understanding your information technology (IT) environment and planning the installation and activation of Service Agent application is the best way to make your configuration and activation tasks more efficient and effective. Figure 9-2 provides an overview of the steps needed in activation.

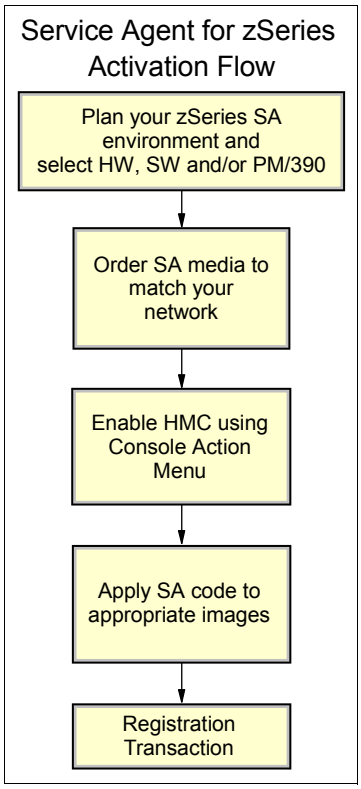

Figure 9-2 Service Agent for zSeries activation flowchart

The user guide recommends that you enable and activate Service Agent in a phased approach. Specific steps that enable a smooth transition are included in the user guide. The information in this section summarizes that information.

You must consider three data types for inventory collection:

- *Hardware data* should be collected for each instance of a LOGREC data set.
- *Software inventory and service (PTFs) data* can be collected from any system that has addressability to the SMP/E CSI that contains information about the installed products and service on the system.
- *Performance data* collection should be enabled for systems for which you want to receive graphical reports regarding resource contention and resources approaching maximum capacity.

Personnel responsible for installing and configuring the Service Agent for hardware data collection and reporting should be familiar with or have a working knowledge of:

- zSeries and S/390 architectures
- MVS system commands
- SMP/E installation skills
- SMP/E CSI structure
- UNIX® System Services environment
- Local RMF™ data gathering procedures
- Program Directory and listed prerequisites

The zSeries environment is complex. Ensure that all items in the following list are considered in the planing process for Service Agent activation.

- The systems programmer must have the correct authority to place Service Agent on the images.
- Plan the Service Agent elements that you are going to activate: hardware, software and performance management.
- Ensure that the HMC is at the most current level.
- Ensure that there is a local area network (LAN) connection between the HMC and zSeries image.

  The focal point HMC needs to be LAN accessible from all OS/390 or z/OS system images where Service Agent is installed to perform information collection and transmission.
- Ensure that the focal point HMC has correct communications for contacting IBM.

- Ensure that your zSeries system is at least on OS/390 V2.10, z/OS V1.1 or later, or z/OSe V1R3 or later, with the current maintenance installed.
- Ensure that the Java product level is IBM Developer Kit for OS/390, Java 2 Technology Edition V1.3 or later with current maintenance installed.
- Order the correct media for your operating system level. Service Agent for zSeries code is ordered as a stand-alone program product or with one of the following package offerings in one of four media (6250 tape, 3480 cartridge, 3590 cartridge, or 4mm cartridge):
  - 5751-CS3 MVS Custom-Built PDO (CBPDO)
  - 5751-CS4 IBM systemPac/MVS
  - 5751-CS5 IBM ProductPac®/MVS
  - 5751-CS9 ServerPac
- Ensure that there is a minimum of 128 MB of memory for Service Agent on the z/OS platform.
  - HESEVEM Task: Requires 2 MB of memory
  - HESSCAN Task: Requires a minimum of 128 MB of memory
  - HESRDLOG Task: Requires 2 MB of memory
- DFSORT™ or OEM equivalent is required only if performance data collection is enabled.

Table 9-1 provides a comprehensive list of components that are related to the Service Agent activation.

Table 9-1 Component list

Different components related to Service Agent	Hardware reporting prerequisites	Software inventory collection prerequisites	PM/390 prerequisites
OS: OS/390 2.10, z/OS 1.0, z/OSe 1.3 or later	x	x	x
LAN connection between HMC and host via TCP/IP	x	x	x
Installation of Service Agent on host system using SMP/E	x	x	x
Activation of Service Agent on HMC	x	x	x
HMC console: HMC Driver 26+MCL or >=Driver 38 Modem setup asynchronous (TCP/IP)	x	x	x
TCP/IP with File Transfer Protocol (FTP) enabled; Security Server or equivalent independent software vendor (ISV) product	x	x	x
IBM Java 2 Enterprise Edition with JDK 1.3.x and 1.4.x		x	x
Unix System Services enabled and activated		x	x
ISPF/PDF: Invoke Service Agent window to define SMP/E CSI & PM zSeries collection frequency and output definition		x	x
RMF or equivalent ISV product			x
DF/SORT or equivalent ISV product			x

9.3 HMC activation

Note: The following steps are for Service Agent processes. They do not have any relationship to the focal point HMC reporting errors on processors.

To activate the HMC Service Agent, follow these steps:

1. Log on as `ASCADMIN`.
2. The HMC menu (Figure 9-3) opens. In the upper pane, select **Console Actions**.
3. Now the HMC menu displays options in the Console Actions Work Area (bottom area in Figure 9-3). Select **Hardware Management Console Settings**.

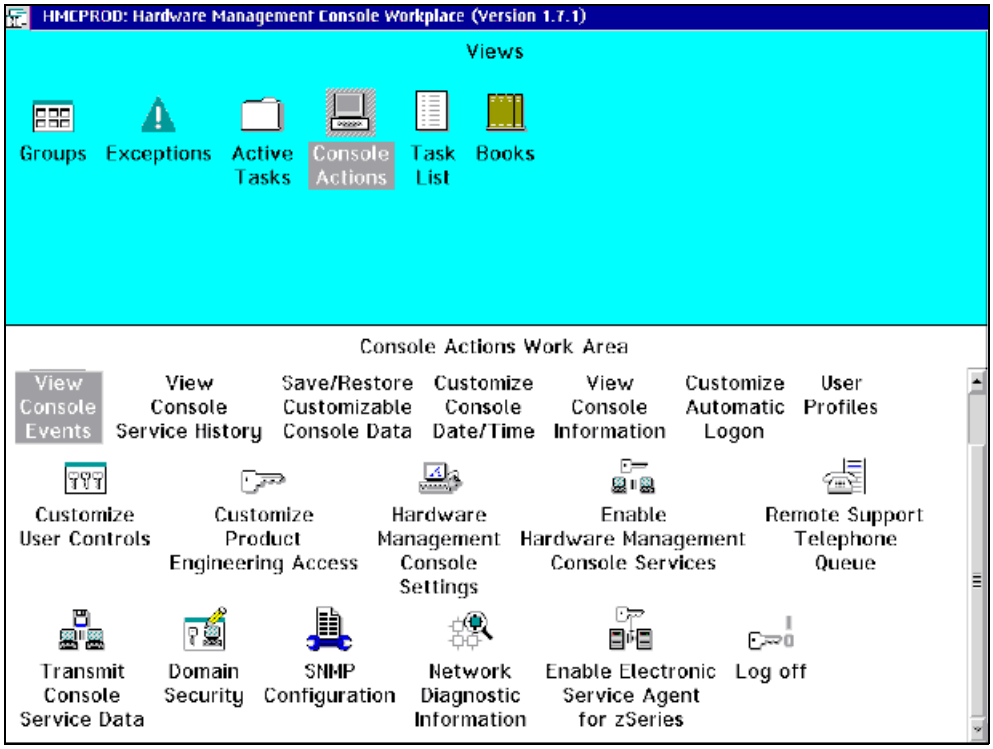

Figure 9-3 HMC menu

4. A pop-up window opens on the HMC menu and displays an IP address. Record the address. You need this address to complete a field in the Service Agent collection attributes. Then click the upper left corner and select **Close** to close this pop-up window.
5. In the Console Actions Work Area (Figure 9-3), select **Enable Electronic Service Agent for zSeries**.
6. The Service Agent License Agreement window (Figure 9-4) opens. To continue with the Service Agent activation process, page through the agreement and select **I AGREE**.

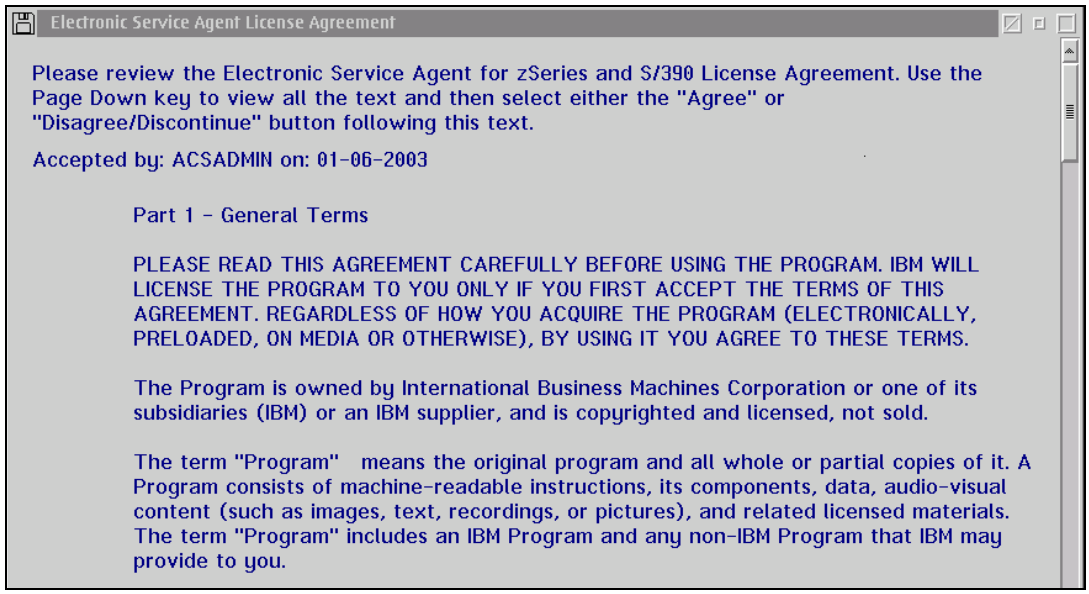

Figure 9-4 Service Agent for zSeries: License window

7. In the next window (Figure 9-5), customer contact information is used to register this HMC with Service Agent and IBM. IBM uses this information to communicate regarding service requests. Change or correct any of the customer information as necessary. Click **Continue**.

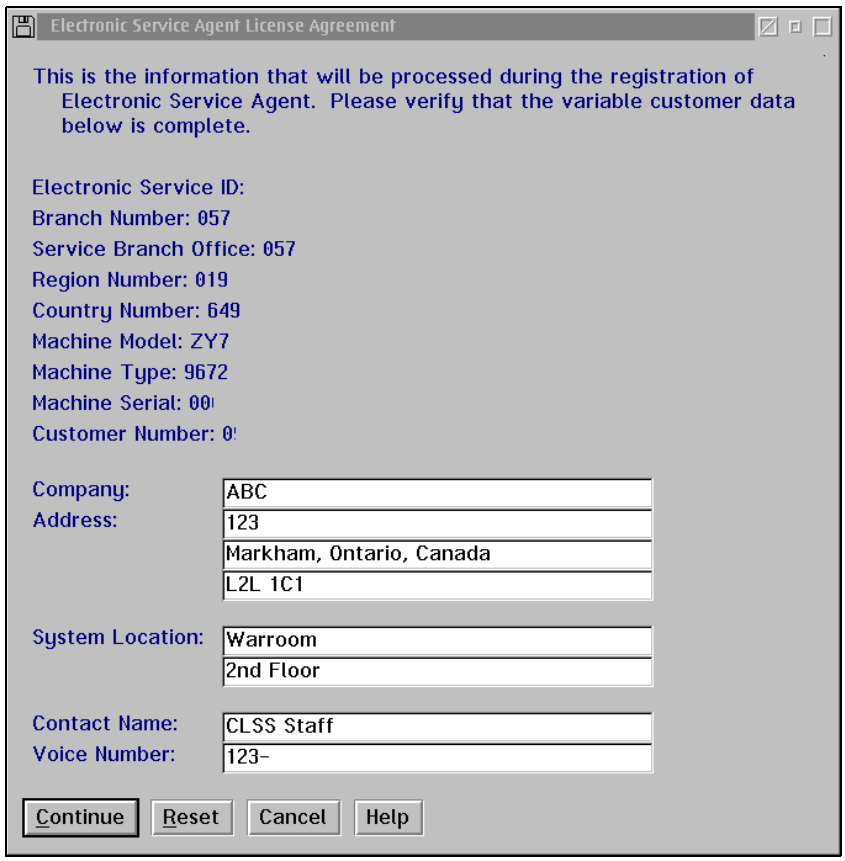

Figure 9-5 Service Agent for zSeries: Updating client information

8. In the next window (Figure 9-6), you enable or disable subsections of the Service Agent and set the FTP password used by the OS/390 software to send information to the HMC. Select the boxes that you want to enable. Enter an FTP password that must also be entered into the OS/390 software. Click **Continue** when you are finished.

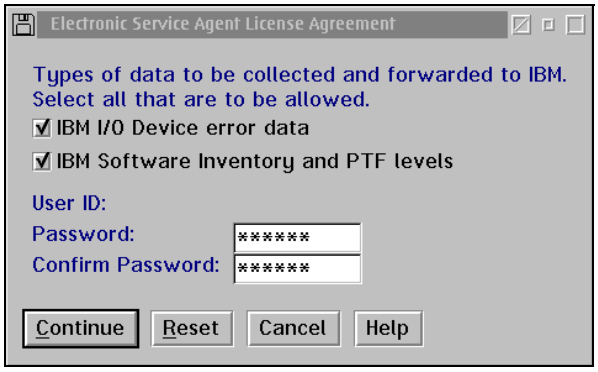

Figure 9-6 Service Agent for zSeries: Enabling or disabling the types of data to send to IBM

9. In the next window, select the time of day for the daily transmission of the inventory information sent to IBM. Click **Finish** to complete the configuration process and store the data within the HMC.
10. The HMC sends the automatic registration transaction. This transaction must be completed before IBM can accept any problem or inventory transactions.

9.4 Image

A system programmer from your organization or a similar authorized representative applies the Service Agent code to all images where Service Agent is to be activated. Refer to your planning document for which image to activate for hardware problem submission, software inventory collection, or Performance Management.

9.4.1 Hardware configuration

Hardware data is collected using a main program load module, called HESRDLOG, and three dynamically allocated datasets. The HESRDLOG started task program begins by reading a data set (hlq.HESPARMS) for its operating parameters. HESRDLOG then reads LOGREC on a five minute cycle, saving hardware records in a temporary dataset (hlq.HESTEMP). State information is written to a dataset (hlq.HESSTATE). When critical data is read, all of the data in the temporary dataset is sent, using FTP, to the focal point HMC for analysis and processing. Then it is sent to IBM.

The following steps summarize how to configure and activate the hardware function of Service Agent.

1. Allocate data sets required by Service Agent. Modify and run the sample HESALCHW job.
2. APF-authorize the Service Agent load library dataset (hlq.SHESLMOD).
3. Update and add Service Agent procedures to SYS1.PROCLIB.
4. Add a step in the EREP JCL job to run and capture Service Agent data.
5. Create started task IDs and started task entries in the STARTED RACF® class for HESRDLOG using the supplied sample job.

6. Configure Service Agent by editing dataset hlq.HESPARMS. Change the HMC IP address and HMC FTP password to match that of your installation.
7. Start the hardware collection. Start the HESRDLOG procedure in the SYS1.PROCLIB dataset.

9.4.2 Hardware activation

Activate the hardware data collection and reporting task by issuing the following MVS START command:

```
S HESRDLOG,ESAPARM='DEBUG,VERBOSE'
```

For subsequent starts, we recommend that you start HESRDLOG in non-debug mode using the following command:

```
S HESRDLOG
```

For the first start, add the VERBOSE variable to the ENV keyword passed as a parameter to the HESRDLOG program. The HESRDLOG started task JCL should look like the following example:

```
//HESRDLOG     PROC    HESSPREF=HESV120,HESUPREF=HESV120,
//             ESAPARM=
//*
//*
//HESRDLOG EXEC PGM=HESRDLOG,TIME=1440,DYNAMNBR=300,REGION=0M,
// PARM='env hlq=&HESUPREF,&ESAPARM'
```

Note: In a sysplex where the LOGREC is a LOGSTREAM, only one instance of the HESRDLOG task should be running on any one of the systems that is connected to the LOGREC logstream. Due to the nature of the LOGSTREAM, data is reported from all of the images connected to the LOGSTREAM in the sysplex.

No checking is done for multiple instances of HESRDLOG reading the LOGREC LOGSTREAM in a sysplex. The person who is performing the installation is responsible for ensuring that only one HESRDLOG task is attached to the LOGREC LOGSTREAM in a sysplex.

Activating the HESRDLOG started task for hardware data collection and reporting on more than one system results in duplicate data, duplicate service calls, and erroneous tape statistical data being presented to the IBM Customer Engineer (CE).

9.4.3 Software and performance collection configuration

Software information is collected from the SMP/E CSI data on a daily basis based on configuration values. Collected software information is compared with previously collected information. If it is changed, it is formatted and sent to IBM.

Performance data is accumulated on a regular basis in an SMF dump file from SMF record types 70-78. Once a week, the currently accumulated performance data is processed, validated by Service Agent, and sent to IBM. The SMF dump file is reset to continue with the performance data accumulation process.

Collected data is formatted and sent, using FTP, to the focal point HMC. Software and performance data are collected using configuration values supplied by a user using the Service Agent window.

To configure the software and performance data collection and reporting function, follow these steps:

1. Allocate data sets required by Service Agent. Modify and run the sample HESALCSW sample job.
2. APF-authorize the Service Agent load library using the sample HESAPF sample job.
3. Authorize Service Agent programs for Service Agent usage by modifying the IKJTSOxx member in SYS1.PARMLIB. The sample is provided in HESTSO sample job.
4. APF-authorize Java dynamic link libraries (DLL) used by Service Agent using the HESJAVA sample job.
5. Create started task entries in the RACF STARTED class profile for HESEVEM and HESSCAN using the HESSTSW sample job.
6. Update and add Service Agent procedures HESMAIN, HESEVEM, and HESSCAN to SYS1.PROCLIB. The sample procedures HESMAIN, HESEVEM, and HESSCAN are provided.
7. Determine the Java Developer Kit (JDK) level to be used by Service Agent. JDK level 1.3.x and 1.4x and later are currently supported.
8. Verify or update the environment variables in the ../usr/lpp/esa/esa1.2/envvars file:
   - CLASSPATH and LIBPATH for the Java JDK level 1.3.x or later
   - Time zone
   - Service Agent System call variables
9. Customize the Service Agent Dialog ISPF interface.
10. Configure the Service Agent using Service Agent Dialog.
11. Start the Verify transaction to verify connection to IBM.
12. Enable a scheduled collection for the data types of your choice.
13. Enable collection and reporting for software data, performance data, or both.

The following additional steps are required for Performance Management collection:

1. Configure SYS1.PARMLIB members ERBRMF00 and SMFPRM00 for accurate collection of RMF and SMF data.
2. Configure SMF dump procedures for Service Agent data collection. The sample procedure HESSMFDP is provided.
3. Verify the size of the SMF dataset allocation.

9.4.4 Software and performance activation

After you configure Service Agent software and performance collection, the next step is to activate the Service Agent started tasks. If the Service Agent tasks are not activated, automatic data collection is not initiated. The Service Agent tasks remain active only if you enabled Service Agent for automatic collection and reporting of data.

You can start the Service Agent tasks in one of the following ways:

- On the Service Agent Main Menu (Figure 9-7), select option 1 (Start).

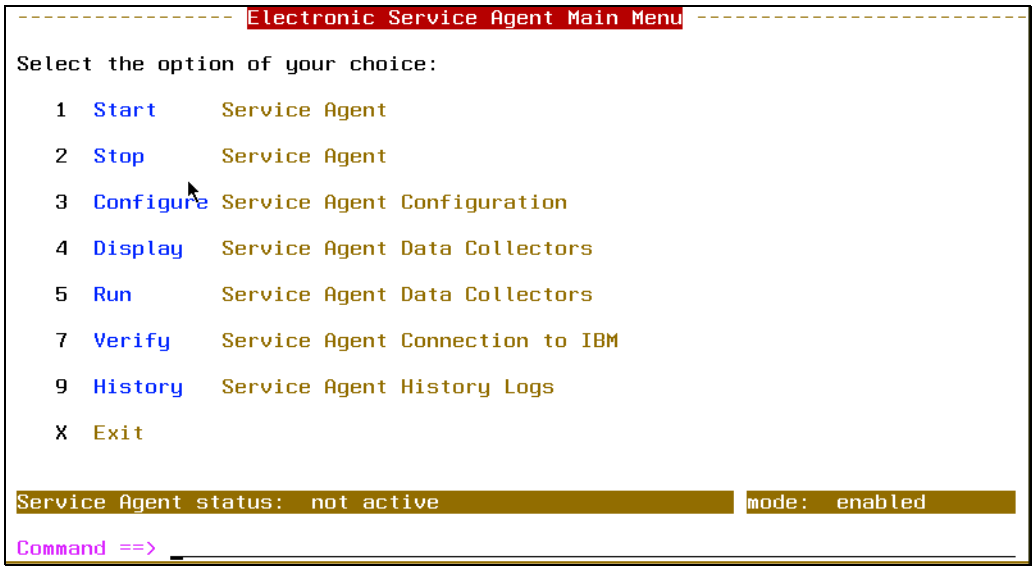

Figure 9-7 Electronic Service Agent Main Menu for zSeries

- Using the MVS console, enter the MVS command:

  `START HESMAIN,ESAPARM=START or S HESMAIN,ESAPARM=START`

- From the command line on the Service Agent Main menu, type:

  `STARTSA`

9.5 Maintenance

The Service Agent Main Menu (Figure 9-7) manages the software and performance actions. It does not manage hardware error collection data. It displays a status and mode bar at the bottom of the view.

For hardware problem submission, use the zSeries ISPF menu. Select option 9 (History log). History log has Service Agent transactions with a user ID and date stamp.

9.6 Uninstall process

Service Agent is installed under the SMP/E umbrella. You use this same process to uninstall it.

You can start and shut down Service Agent manually. Or you can use an automatic procedure for the Electronic Service Agent software component in an automated operations environment. For more information about these steps, refer to *The IBM Electronic Service Agent for zSeries and S/390 User Guide,* SC38-7104.

Glossary

AGNS AT&T Global Network Services

AIX Service Director The AIX Service Director is obsolete. It should *not* be installed on the AIX operating system in the HMC environment. This would cause multiple reporting of faults.

client Hardware Management Console (HMC) The client HMCs are the additional machines that use the gateway HMC to communicate to IBM. The clients do not have database capabilities and are configured as client HMC.

configuration Adaptation of files to a specific client site for execution.

configuration file A file that contains information, such as client contact information, supplied by the client. It is created or changed during the installation and configuration process. You may also change it during an Electronic Service Agent upgrade or via commands from other subsystems.

configurator The program that performs the process of configuring Service Agent to the requirements of the client site.

Data Collector The subsystem that is responsible for collecting system and information and sending it to the appropriate destination as messages (xSeries platform).

ECI Electronic Customer Interface.

encryption A method of encoding messages to provide message security. Local encryption encodes messages moving among distributed subsystems in a networked environment. External encryption encodes messages before transfer between the gateway and IBM.

enrolled machines All iSeries and pSeries HMC supported machines are enrolled using the CPU machine type, model, and serial number. This information should be supplied by the Service Focal Point (SFP) to Service Agent (SA). You may have to fill the initial gateway data manually. Do *not* use the PC type, model, serial number, etc.

entitlement Relates to the level of support provided to a client. The level of support is determined by the contractual arrangement between IBM Global Services and the client.

error information Information that describes the conditions of the managed system that are beyond the specified tolerances of normal system behavior.

ESCON Enterprise System Connection Director (zSeries platform).

event A means of identifying a change of state of a process or device in the network. For example, an event identifies when a critical resource threshold, such as virtual memory utilization, is met.

Field Replaceable Unit (FRU) A part or component that can only be replaced by trained IBM service personnel and cannot be replaced by customers.

FRU See *Field Replaceable Unit*.

gateway The subsystem that establishes secure communication with IBM and transfers messages between the Data Collector and IBM. Applies to the iSeries and pSeries platforms.

gateway HMC The gateway HMC is the system where the Service Agent central database resides for this complex. This is the default configuration. The gateway machine contains the central database and the processes to control the Internet or modem communications to IBM.

Hardware Management Console (HMC) Allows you to perform many hardware management tasks for the managed system, including configuring logical and affinity partitions.

HES code Portion of the Service Agent for zSeries placed on the images or partitions of the zSeries operating system.

HMC See *Hardware Management Console*.

HTTPS HTTP Secure (external communications for Service Agent).

IBM Director A systems management product that provides support for xSeries servers.

IBM ID, ICR IBM Common Registration ID.

installation The placement of binary, non-customized control files, and support files in a directory hierarchy on the client system. The establishment of specific user accounts, groups, etc., and of default permissions and authentication requirements.

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inventory information Information that describes the basic configuration of a managed system. Included are a list of the physical characteristics of the managed system (number of processors, amount of memory and disk, etc.), and a list of installed software. Also known as *machine inventory information* or *service information*.

JIT compiler Java Just In Time compiler. See the following Web site for more information: http://www.sun.com/software/solaris/jit

LAN See *local area network*.

local area network (LAN) Connects several devices into a limited area (such as a single building or campus). Can be connected to a larger network.

log file Record information about normal and abnormal operation. Contains entries delimited by a time stamp.

LSLPP The List Licensed Program Products AIX command. Is used by Service Agent to collect all installed programs, versions, and maintenance levels.

managed systems An operating system instance or hardware platform monitored by Electronic Service Agent.

MVS zSeries operating system abbreviation. Used as a default operating system description on the zSeries machines. Other zSeries operating systems can be OS/390 or z/OS.

PDF Adobe Portable Document Format.

PMR See *problem management record.*

problem report Describes a problem that requires the attention of IBM service personnel. This term can be used in place of the RETAIN-specific term, problem management record (PMR).

problem record/problem management record (PMR) A RETAIN-specific term. Describes a problem that requires the attention of IBM service personnel.

registration Associates authorized local users with a managed system. Allows them access to data about that system on the Electronic Service Agent Web site. Registration is initiated by Electronic Service Agent.

SACM See *Service Agent Connection Manager*.

schedule driven Collectors and detectors that gather information about managed systems at specified times.

SDR See *Service Data Receiver*.

Secure Sockets Layer (SSL) A security protocol that provides communication privacy. Enables client/server applications to communicate in a way that is designed to prevent eavesdropping, tampering, and message forgery.

Service Agent Connection Manager (SACM) May use an existing Internet connection or have a modem configured to communications through a dialer structure. The gateway HMC and the stand-alone Service Agent may use the same SACM to communicate to IBM.

Service Data Receiver (SDR) An IBM database that supports Electronic Service Agents.

Service Focal Point (SFP) Product application that resides on HMC and AIX that delivers information to Service Agent that is reported to IBM. Service Agent does no data collection in an HMC environment. It only delivers the information that SFP directs it to handle (pSeries platform).

SFP See *Service Focal Point*.

SMP/E See *System Modification Program Extended*.

SNAP An AIX command to get a snapshot of register information from a system

SSL See *Secure Sockets Layer*.

stand-alone Electronic Service Agent for pSeries and RS/6000 May be installed on the AIX operating system in the HMC environment. Does not collect any data in an HMC-controlled complex. A common SACM may be used to connect both applications to IBM.

System Modification Program Extended (SMP/E) The basic tool for installing and maintaining software in z/OS and OS/390 systems and subsystems.

Tape Subsystem Performance Analysis (TSPA) A graph provided to IBM Support using Service Agent information (zSeries platform).

TSPA See *Tape Subsystem Performance Analysis*.

vital product data (VPD) All information needed to obtain a picture of the hardware and levels.

VPD See *vital product data*.

WAN See *wide area network*.

Web-based System Manager (WSM) Name of the GUI on the HMC. Service Agent items are found under Service Applications and then Tasks (pSeries platform).

wide area network (WAN) A network that provides communication services between devices in a geographic area larger than that served by a LAN or a metropolitan area network. May use or provide public communication facilities.

WSM See *Web-based System Manager*.

Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

IBM Redbooks

For information about ordering these publications, see “How to get IBM Redbooks” on page 137. Note that some of the documents referenced here may be available in softcopy only.

- *IBM @server iSeries Universal Connection for Electronic Support and Service*, SC24-6224
- *Effective System Management Using the IBM Hardware Management Console for pSeries*, SG24-7038
- *Performance Management Services for AIX in a Partitioned Environment*, REDP-0223
- *Difference Between Two Backup Tasks: Backup Critical Console Data and Save Upgrade Data (HMC for pSeries)*, TIPS0156
- *What is a Hardware Management Console (HMC)?*, TIPS0280

Other publications

These publications are also relevant as further information sources:

- *SMP/E V3R3.0 for z/OS and OS/390: Messages, Codes and Diagnosis,* GA22-7770
- *SMP/E for z/OS and OS/390: Commands,* SA22-7771
- *SMP/E for z/OS and OS/390: Reference,* SA22-7772
- *SMP/E for z/OS and OS/390: User’s Guide,* SA22-7773
- *OS/390 MVS JCL Reference,* GC28-1757
- *OS/390 MVS JCL User's Guide,* GC28-1758
- *OS/390 MVS System Management Facilities,* GC28-1783
- *OS/390 MVS Initialization and Tuning Reference,* SC28-1752
- *OS/390 UNIX System Services User’s Guide,* SC28-1891
- *OS/390 Resources Measurement Facility (RMF) User’s Guide,* SC28-1949
- *S/390 Hardware Management Console Operations Guide, Application Version 1.4*, GC38-0459
- *Electronic Service Agent for zSeries and S/390 V1R2 LPS*, GA38-0956
- *The IBM Electronic Service Agent for zSeries and S/390 User Guide,* SC38-7104
- *Electronic Service Agent for pSeries User Guide,* SC38-7105
- *Electronic Service Agent for pSeries User Guide for HMC V3.1*, SC28-7107

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- *Electronic Service Agent for iSeries User's Guide V5R2*, SC41-5016
- *Electronic Service Agent for Linux User Guide,* SC38-7109
- *System Manager Use,* SC41-5321

Online resources

These Web sites and URLs are also relevant as further information sources:

- Electronic Service Agent for iSeries V5R3, User Guide

  http://publib.boulder.ibm.com/isrvagt/sdsadoc.html
- Installation, Configuration and Start-Up for SystemView® System Manager/400

  http://www-912.ibm.com/8625680A007CA5C6/1AC66549A21402188625680B0002037E/6D56D4950C0145F0862566F800673B86
- *Electronic Service Agent for pSeries and RS/6000 Hardware Management Console (HMC)*, SC38-7107

  ftp://ftp.software.ibm.com/aix/service_agent_code/HMC/
- *Electronic Service Agent for pSeries User Guide*, SC38-7105

  ftp://ftp.software.ibm.com/aix/service_agent_code/AIX/svcUG.pdf
- *Electronic Service Agent for Linux User Guide*, SC38-7109

  ftp://ftp.software.ibm.com/linux/service_agent_code/LINUX/
- IBM Director

  http://www-1.ibm.com/servers/eserver/xseries/systems_management/director_4.html
- *Electronic Service Agent for zSeries and S/390 User Guide*, SC38-7104

  ftp://ftp.software.ibm.com/s390/serviceagent/sa390ugv1r2.pdf
- OS/390 Internet Library

  http://www.ibm.com/servers/s390/os390/bkserv/
- z/OS Internet Library

  http://www-1.ibm.com/servers/eserver/zseries/zos/bkserv/

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IBM Redbooks

IBM Electronic Services: Support for Business in an On Demand World

(0.2”spine)
0.17”<->0.473”
90<->249 pages

IBM Electronic Services

Support for Business in an On Demand World

Redbooks

Use IBM Electronic Services to run an on demand business

Install and run Electronic Service Agents on IBM @server

Access worldwide support from the Internet

What is IBM Electronic Services? Why do I need it? Where do I get it? When and how do I get it? How will this help me move into an on demand business?

Find the answers to these questions and more details about *IBM Electronic Services* in this IBM Redbook. In an on demand environment, IBM Electronic Services integrates the IBM Support community with your company to ensure that your IT environment is running with minimal disruption and maximum efficiency. The two components of this strategy are IBM Electronic Service Agent (Service Agent) and the IBM Electronic Services Web site.

Service Agent is available for all IBM @server product lines, in all countries or regions where IBM does business. This redbook teaches you the basic steps to install, activate, and use Service Agent in your enterprise for each product line: IBM @server iSeries, pSeries, xSeries, and zSeries.

This redbook also highlights the Electronic Services Web site and how to use the features of Service Agent through this site. For example, you can view the Service Agent inventory and use Service Agent information in the Premium Search tool. You can also see a list services that use Service Agent information, such as Performance Management offerings and Capacity Upgrade on Demand (CUoD). Plus this book explains how you can benefit from the on demand benefits of using Service Agent.

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