IBM Performance Management
for Power Systems

www.ibm.com/systems/power/support/pm/

Performance Management for Power Systems
PM Collection Agent for AIX and VIOS - Setup

Contents

Contents (cont.)

IBM Performance Management for Power Systems

www.ibm.com/systems/power/support/pm/

Introduction to Performance Management for Power Systems

Introduction to Performance Management for Power Systems

- **Overview**
  - PM for Power Systems (PM) helps automate the collection, archival and analysis of system performance data and returns capacity and performance reports and graphs that can help customers plan for and manage their system performance and resources.
  - PM collects system utilization, performance statistics and hardware configuration information. Customers are entitled to use this function to receive summary level reports for no additional charge providing the system is under warranty or covered by an IBM Hardware Maintenance Agreement.
  - Additional ‘detail’ level reports are available as part of an IBM Global Technology Services fee offering.
  - PM uses “topasrec” persistent binary recording to collect the performance data. So, “topasrec” persistent binary recording should always be enabled for PM Service to collect performance data.
- **For more information about PM for Power Systems**
  - Web Site: http://www.ibm.com/systems/power/support/pm/index.html

What am I agreeing to upon PM for Power Systems activation?

- **Data collection**
  - PM for Power Systems uses performance and capacity information from the Power Systems platform. This service collects system utilization, performance information and hardware configuration information.
  - Once the data is collected, PM scripts process the data and prepares it for transmission to IBM for future analysis and report generation.
- **Data availability to IBM**
  - You agree that IBM may use and share the data collected by PM for Power Systems within the IBM enterprise without limitation, including for purposes of problem determination, of assisting you with performance and capacity planning, of maintaining your existing and new business relationships with IBM, of notifying you of existing or projected resource constraints, and to assist us to enhance IBM products. You also agree that your data may be transferred to such entities in any country whether or not a member of the European Union.
- **Data availability to solution providers and Business Partners**
  - You may authorize IBM to share your data with various third parties, including one or more solution providers and Business Partners to make them aware of your performance and capacity demands and to enable them to provide you with a higher level of service.
  - You may complete the authorization process online for your selected Solution Providers and/or Business Partners: PM Data Transmission

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IBM

Setup Order for PM for Power Systems
PM AIX Collection Agent

Setup Order for PM for Power Systems (PM AIX Collection Agent)

- **Before sending performance information to IBM**
  - Plan upgrade path
  - Configure PM AIX Collection Agent on each server/partition
  - Confirm there is an active recording
  - Enable Data Transmission
  - Select transmission method to send performance information to IBM
    - Electronic Service Agent (ESA) (Stand-alone server)
    - Hardware Management Console (HMC)

Plan Upgrade Path

- **Upgrade Considerations**
  - The new PM AIX Collection Agent is now part of the AIX operating systems. It is not the same as the original PM Collector (pmaix.rte) that was available for download from the IBM website.
  - Upon upgrading, the original Collection Agent (pmaix.rte) will be disabled and you are no longer allowed to install it on your server
  - If you have the original PM Collector (pmaix.rte) it is recommended that you send the current performance information to IBM prior to upgrading your AIX operating system. This will ensure there is not an interruption of your performance data for your server
  - You will need to upgrade to AIX 5.3 TL11 or AIX 6.1 TL 4 to take advantage of the new PM AIX Collection Agent
  - Support is planned for AIX V6.1 TL 3 and AIX V5.3 TL 9 and 10 in second quarter 2010
  - Your performance graphs will look the same if you have added your server to the PM for Power Systems web site

Configure PM AIX Collection Agent on each server/partition

- **Configuration steps needed on each server/partition**
  - Telnet to each server after you have scratch installed or migrated to the newer AIX operating system
  - Enter your Customer Information
  - Set the desired Data Retention Period
  - Set the desired Trending Days and Shift Timing
- **You will need to perform these steps on each server/partition you wish to send performance information to IBM**

NOTE: If you have upgraded your server with Service Update Management Assistant (SUMA), you will need still need to enter your Customer Information on each server/partition.

Confirm there is an active recording

- **Performance Recording**
  - PM AIX Collection Agent collects performance data on each server/partition.
  - Each server/partition must have an active recording running to collect the performance information
  - By default, a recording is started automatically for you when migrating or scratch installing of AIX with the new PM AIX Collection Agent so there is no additional steps required
  - Under normal situations you will never have to re-start this recording. It will automatically start when you restart your server
  - You can stop/start the recording at any time to change the recording interval

Enable Data Transmission

- **Preparing performance data to be ready to send to IBM**
  - Once you have entered your Customer Information and confirmed there is an active recording, you are ready to Enable Data Transmission
  - By doing so, the pervious day's performance information file (stats.send) will be generated and is ready to be sent to IBM
  - Depending on the Data Retention Period, several days of performance data will be saved locally on your server ready to be retransmitted if necessary
  - You will have to use either Electronic Service Agent (ESA) or a Hardware Management Console (HMC) to send this performance file to IBM
  - It is recommended that you send performance data each day to IBM. Note that you can't send the performance information for the current day.

Select transmission method to send performance information to IBM

- **Select what method to send performance data to IBM**
  - There are two ways you can send the performance data to IBM: Electronic Service Agent (ESA) or Hardware Management Console (HMC)
  - ESA is used for sending from a stand-alone server
  - HMC is used for collecting performance data from multiple servers and sending to IBM at the same time
- **Configuring Both**
  - It is not recommended that you have both an HMC and ESA configured to send performance data from the same server/partition

Summary

- **You will need to migrate or scratch install to newer AIX OS to take advantage of the newer PM AIX Collection Agent**
- **The older PM Collector (pmaix.rte) is being replaced and will not be used once you upgrade your AIX OS**
- **After entering Customer Information, confirming there is an active recording, and Enabling Data Transmission – your performance information is ready to be sent to IBM**
- **The previous day's performance data is sent. You can't send performance data for the current day.**
- **You can use either ESA (stand-alone) or HMC (multiple servers) to send the performance information to IBM**

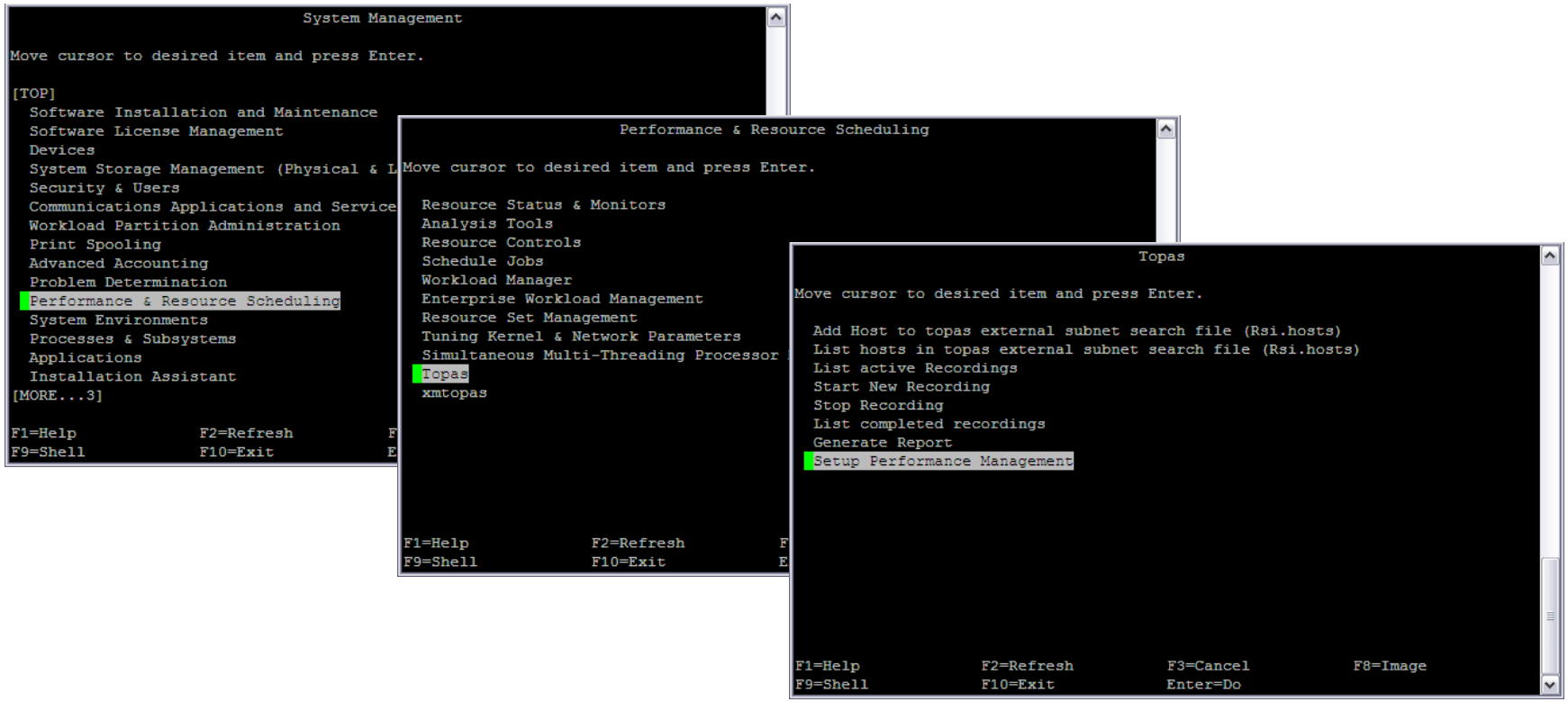
PM AIX Collection Agent Menus

PM AIX Collection Agent Menus

- **There are two ways you can access PM AIX Collection Agent setup screens**
  - Main menu of smit (or smitty)
  - FastPath access of smit (or smitty)
- **Either method works**

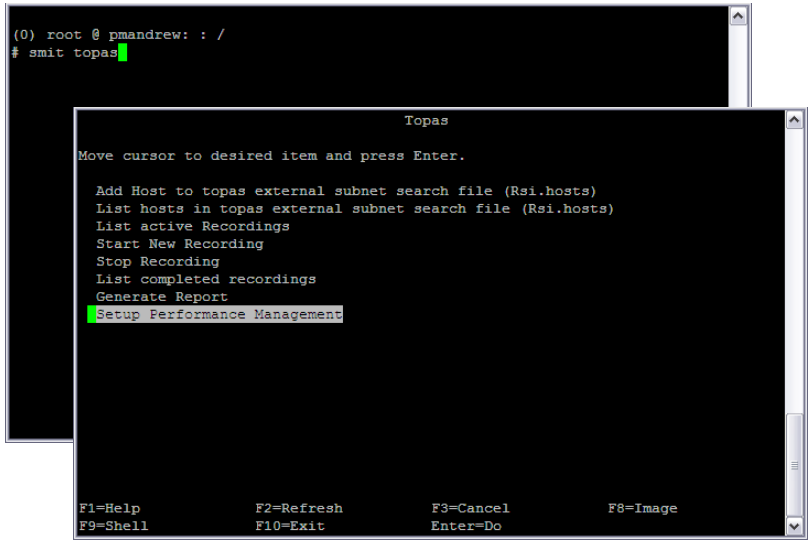
Accessing PM AIX Collection Agent Menus from ‘smit’ Main Menu

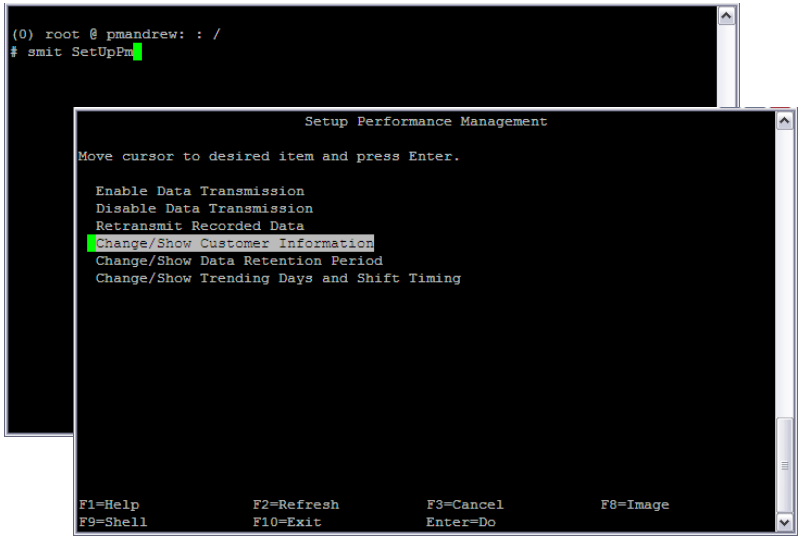
- **From AIX prompt**
  - smit (or smitty)
  - Select ‘Performance & Resource Scheduling’
  - Select ‘Topas’



Accessing PM AIX Collection Agent Menus Using ‘smit FastPath’

- **From AIX prompt**
  - smit topas
  - smit SetUpPm





  - You can also use
    - smit performance → Select ‘Topas’

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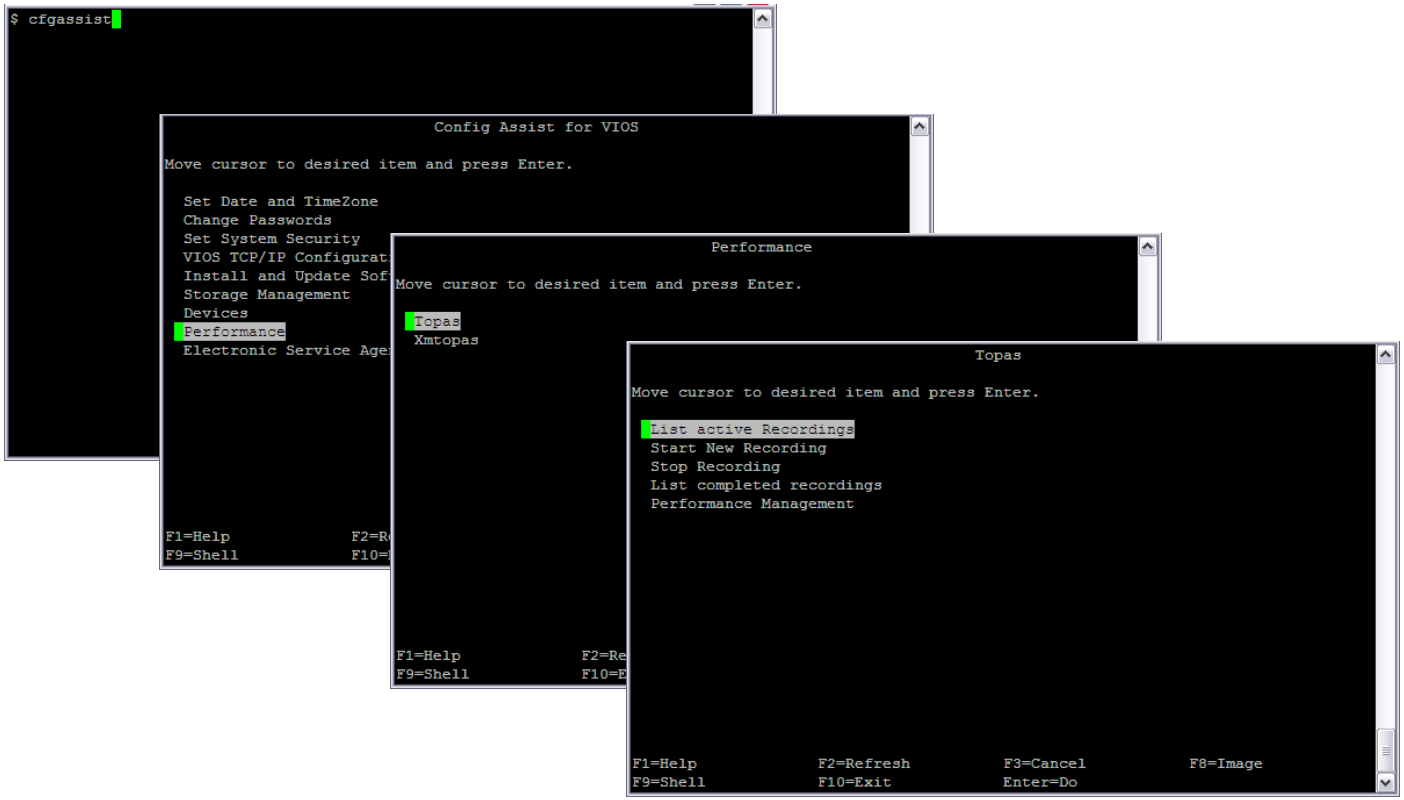
Configure PM VIOS Collection Agent

Configure PM VIOS Collection Agent

- **Overview**
  - PM VIOS Collection Agent will perform the same as PM AIX Collection Agent
  - Use the '**cfgassist**' utility to access the PM AIX Collection Agent menus instead of 'smit'
  - There is not a FastPath access to PM VIOS Collection Agent from cfgassist
  - Not all of the options are available under cfgassist that are under smit
  - Different default output path for recording files
- **More information**
  - For more information about VIOS, please visit the following website: http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html

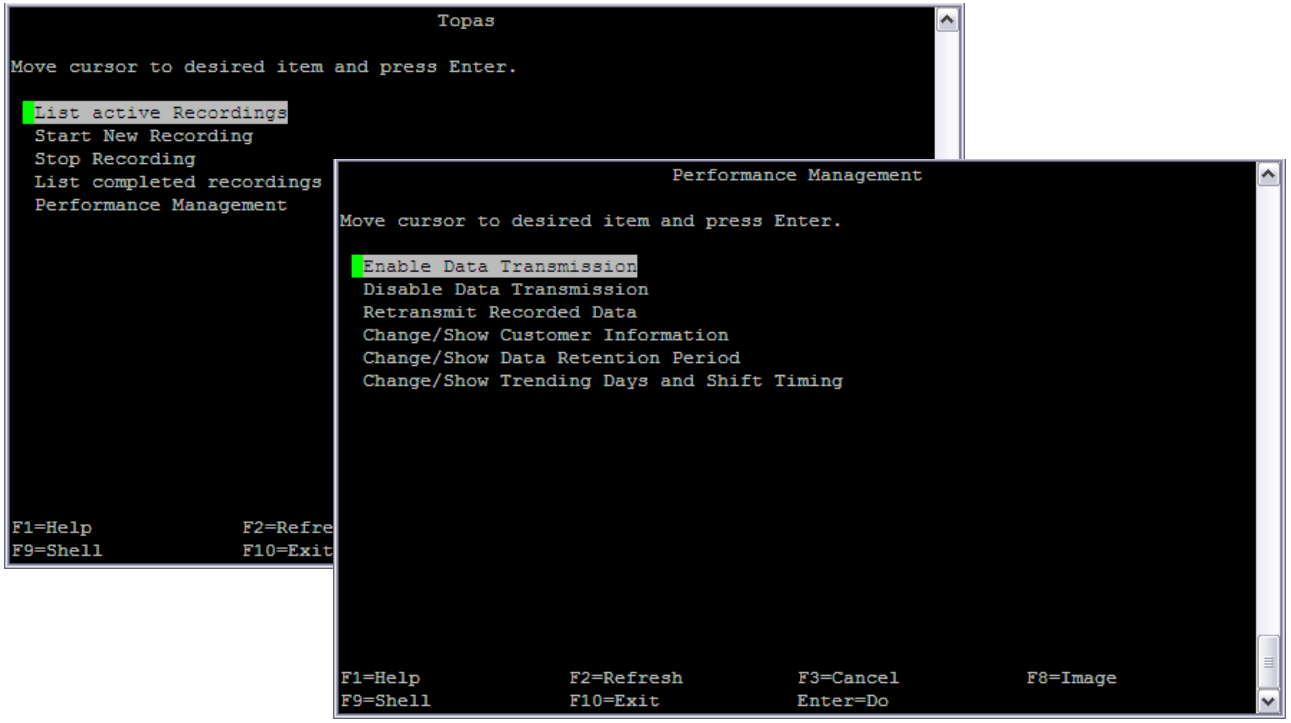
Accessing PM VIOS Collection Agent Menus from ‘cfgassist’

- **From VIOS prompt**
  - cfgassist
  - Select ‘Topas’
  - Select ‘performance’



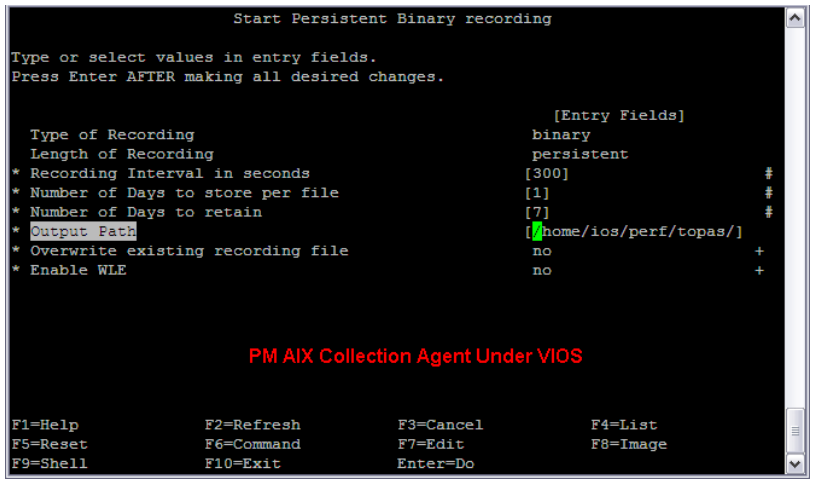
Accessing Setup Performance Management Menu

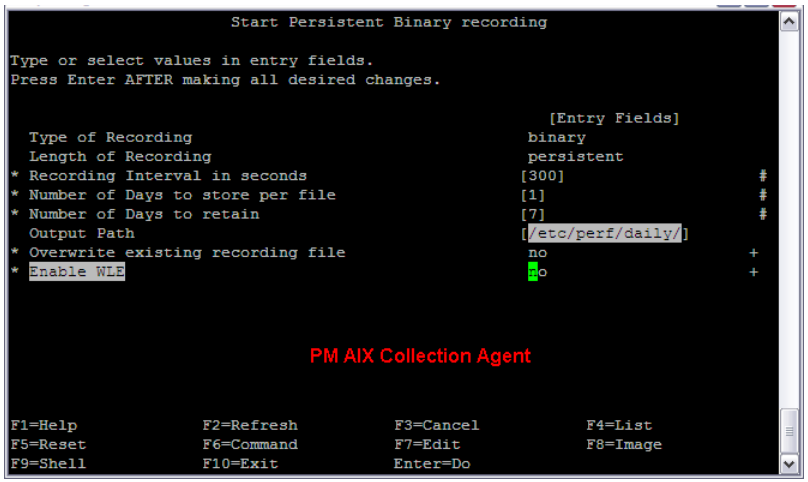
- **From Topas Main Menu**
  - Select ‘Performance Management’



Start New Recording Differences under VIOS

- **Different Output Path**
  - Under VIOS, the default recording path is '/home/ios/perf/topas'
  - Under normal PM AIX Collection Agent, the default path is '/etc/perf/daily'





Summary

- **Most of the PM VIOS Collection Agent functions perform the same as PM AIX Collection Agent.**
- **Use the ‘cfgassist’ utility to access the PM VIOS Collection Agent menus instead of ‘smit’**

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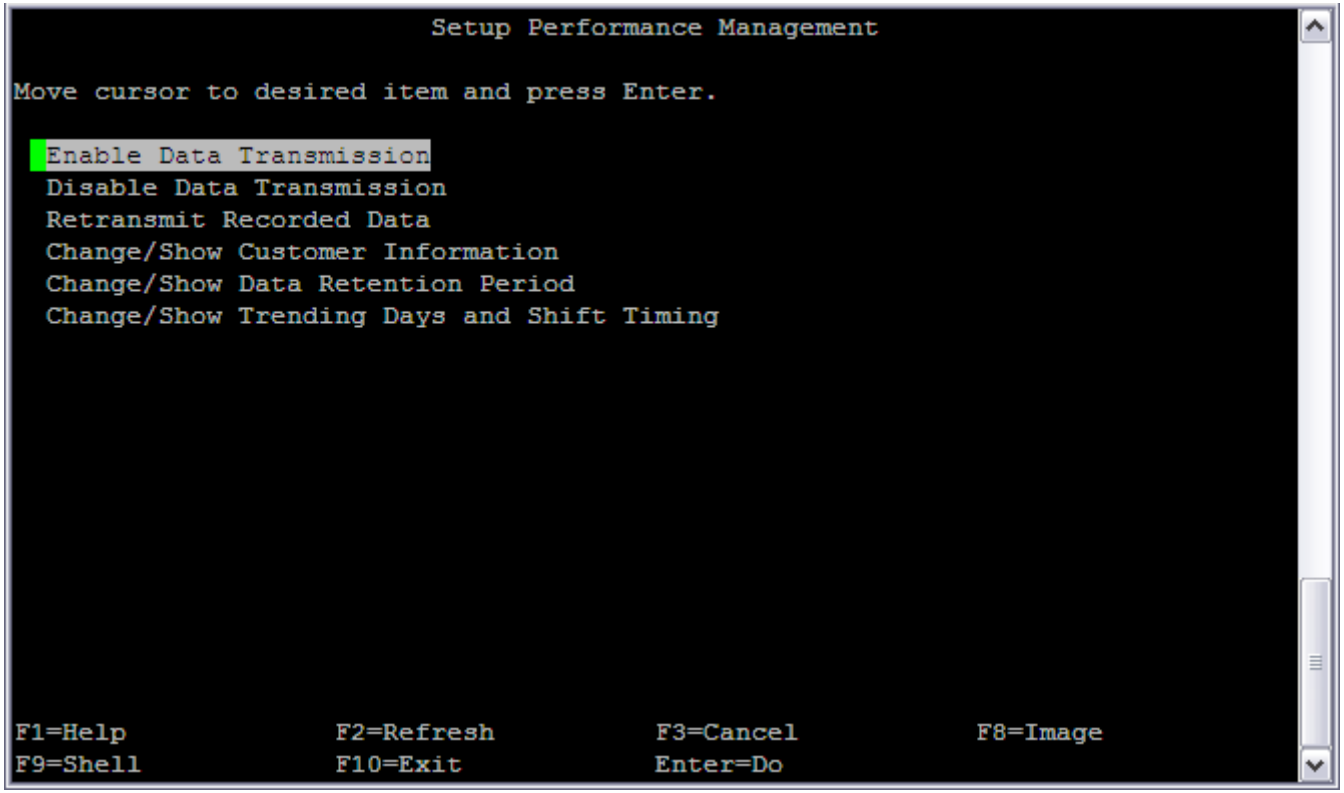
Configure PM AIX Collection Agent
Setup Performance Management

Setup Performance Management

- **Enable Data Transmission**
  - Instructs the server to generate a performance file that is ready to be sent to IBM
- **Disable Data Transmission**
  - Instructs the server to NOT generate a performance file
- **Retransmit Recorded Data**
  - Allows generation of performance file to re-transmission of a single day or all available Performance Data to IBM
- **Change/Show Customer Information**
  - Customer Information that is sent with the Performance Information to IBM
- **Change/Show Data Retention Period**
  - Number of days of Performance Data to keep on server
- **Change/Show Trending Days and Shift Timing**
  - Defines working days and the start/end of shift 1 and 2

Setup Performance Management

- **From AIX prompt**
  - smit → 'Performance & Resource Scheduling' → 'Topas' → 'Setup Performance Management'
  - smit SetUpPm

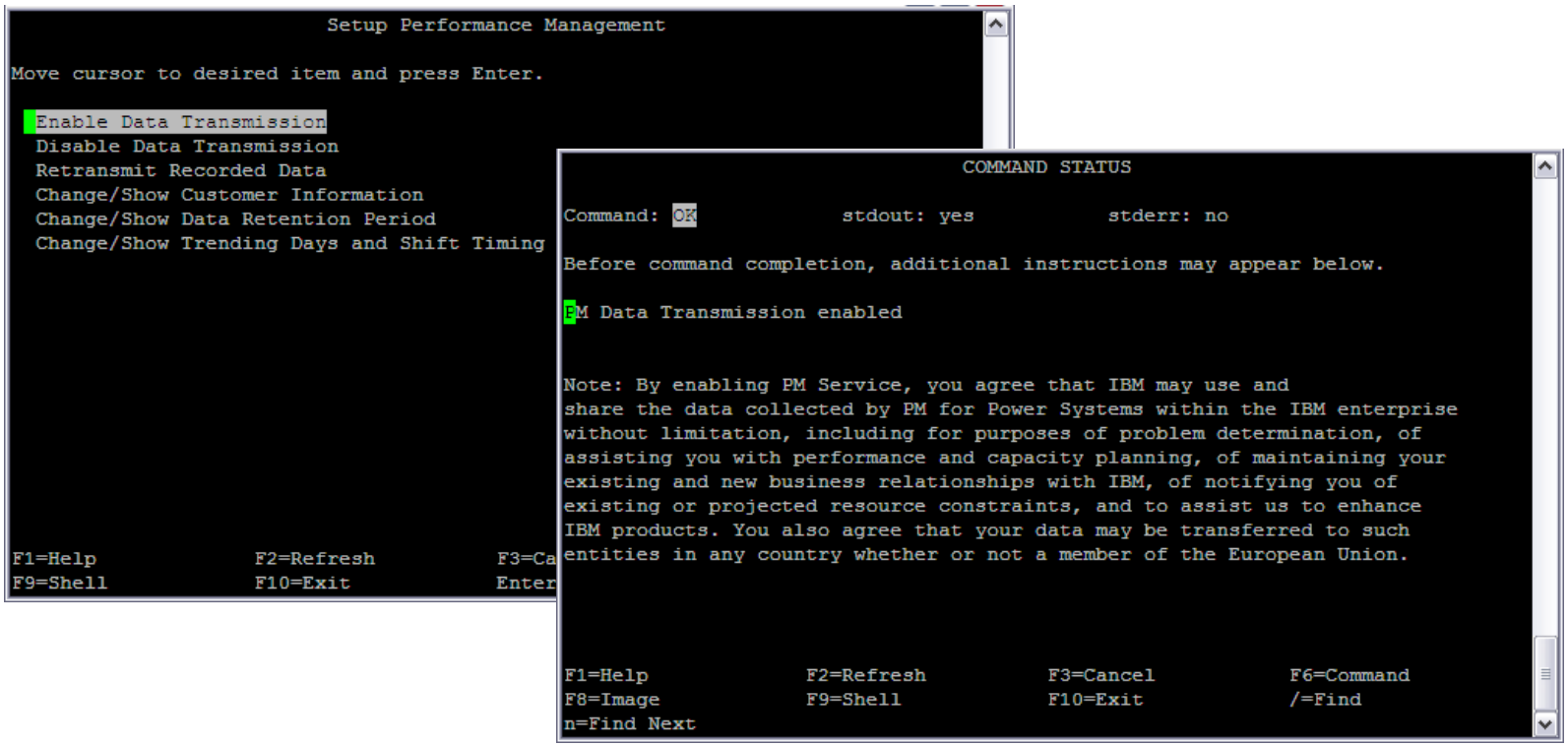


Enable Data Transmission

- **Requirements for Enable Data Transmission**
  - Customer Information needs to be entered
  - There needs to be an active recording
- **What happens ‘behind the scene’**
  - Two entries will be added to the crontab
  - The PM AIX Collection Agent will prepare to generate the performance data at 23:55 and create the actual file at 23:59
  - This file is then ready to be sent to IBM
  - You will only need to do the ‘Enable’ step once. The setting is retained even if the server is restarted

Enable Data Transmission

- **Screen Examples**
  - Assumes Customer Information has been entered
  - There is an Active Recording

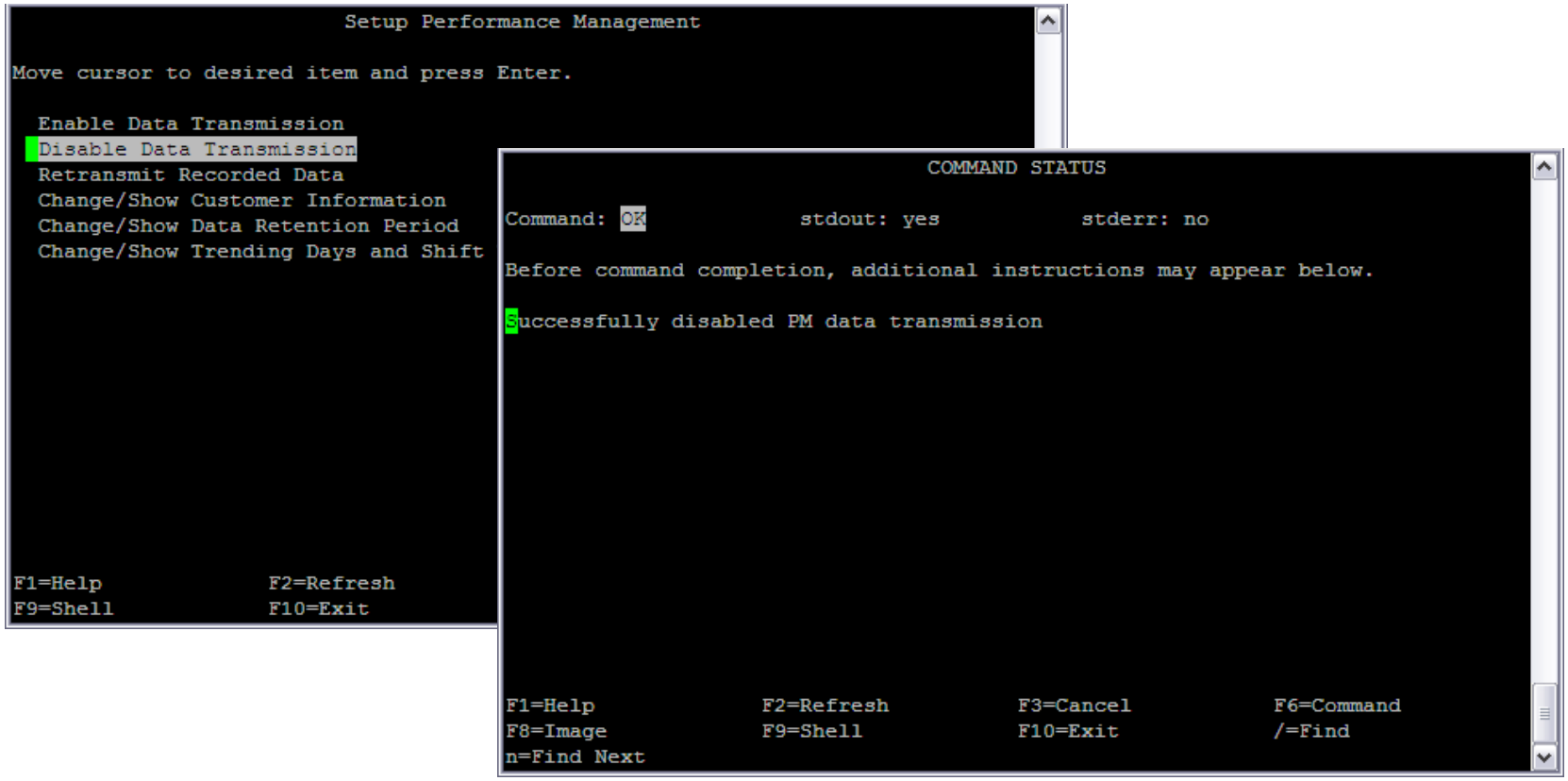


Disable Data Transmission

- **Overview**
  - If you no longer want to send the performance data to IBM, select this option
- **What happens ‘behind the scene’**
  - Two entries will be removed from the crontab
  - The stats.send file will no longer be generated
  - You will only need to do the ‘Disable’ step once. The setting is retained even if the server is restarted

Disable Data Transmission

- **Screen Examples**
  - Assumes Data Transmission has not already been disabled

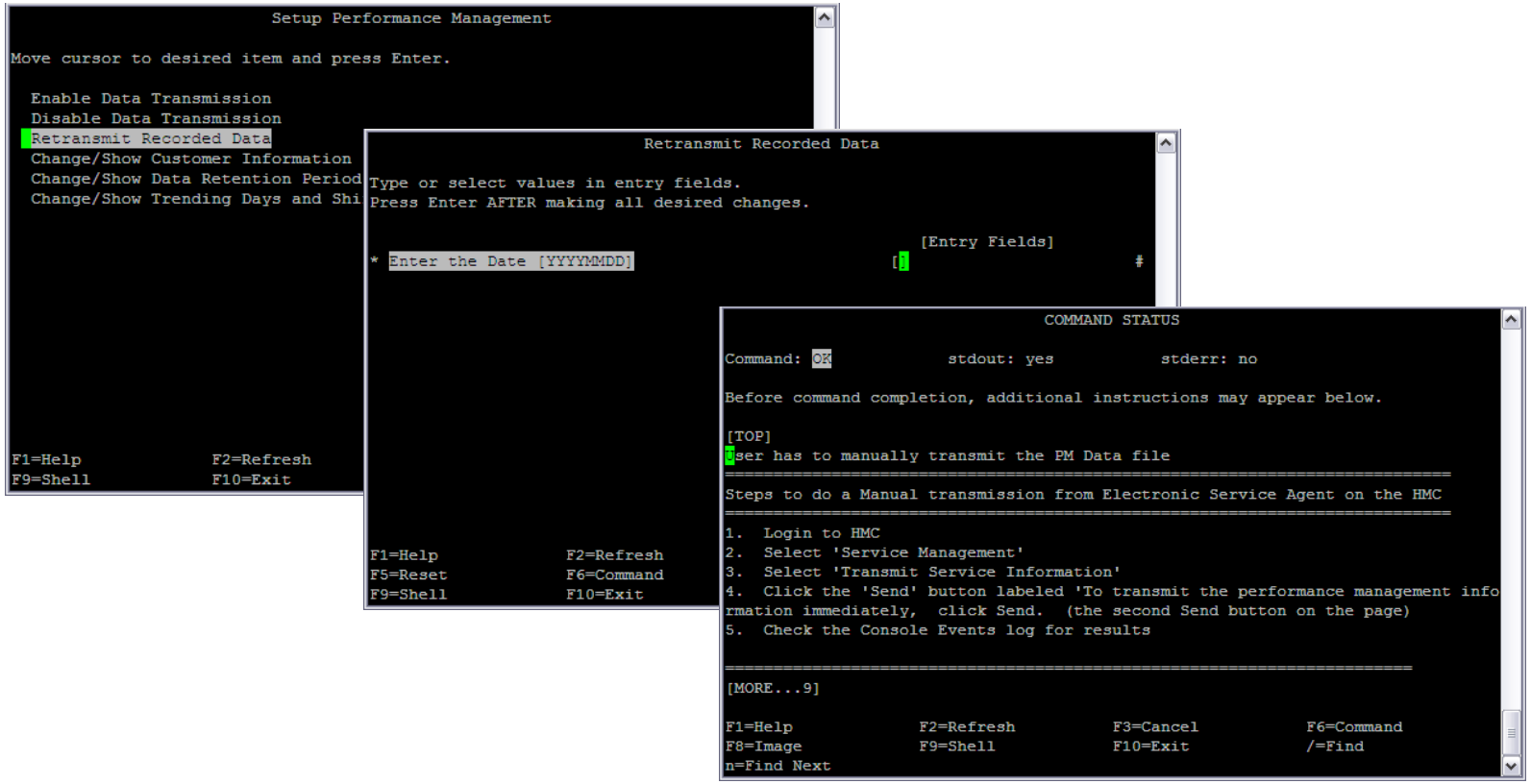


Retransmit Recorded Data

- **Requirements for Retransmit Recorded Data**
  - Data Transmission must be Enabled
  - You must have at least one day of performance data available
  - You can't Retransmit the current date or a date outside the Data Retention Period
  - Enter the date in YYYYMMDD format, example 20090812 for August 12, 2009.
- **What happens 'behind the scene'**
  - Entering a valid date will generate a new stats.send file that contains performance data for that date. This file is then ready to be sent to IBM.
  - Entering a zero (0) will put all available performance data into the stats.send file. This file is then ready to be sent to IBM.
- **Important Note**
  - It is recommended that you manually transmit the current performance data to IBM **before** using the Retransmit recorded Data choice (either via ESA or HMC)
  - Manually transmit again **after** the 'Retransmit Recorded Data' menu choice is run
  - This will ensure there is no interruption in performance data that is sent to IBM

Retransmit Recorded Data

- **Screen Examples**
  - Assumes there is at least one day of performance data available
  - Enter zero (0) to retransmit all available performance data

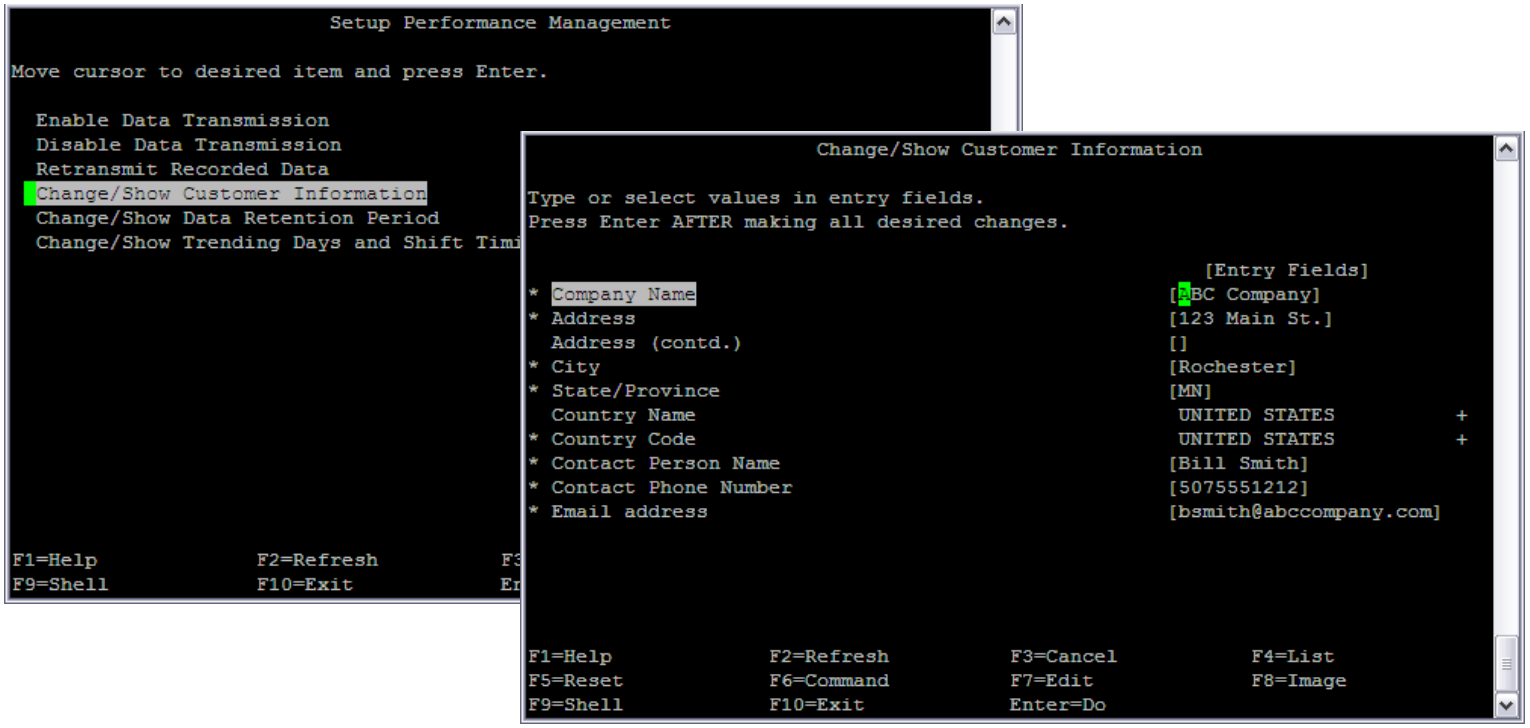


Change/Show Customer Information

- **Overview**
  - Allows you to enter your customer information such as contact name, e-mail address, and address
  - You need to enter the Customer Information on each server/partition that you want to send performance data to IBM
  - Can be updated at any time the Customer Information has changed. Changes will be automatically be sent along with the performance information to IBM
- **Required Fields**
  - Company Name
  - Address
  - City
  - State/Province
  - Country Code
  - Contact Person Name
  - Contact Phone Number
  - Email Address
- **Very important**
  - Enter a valid Email Address and Country Code
  - PM for Power Systems will send you a registration key so you can view your online performance graphs.

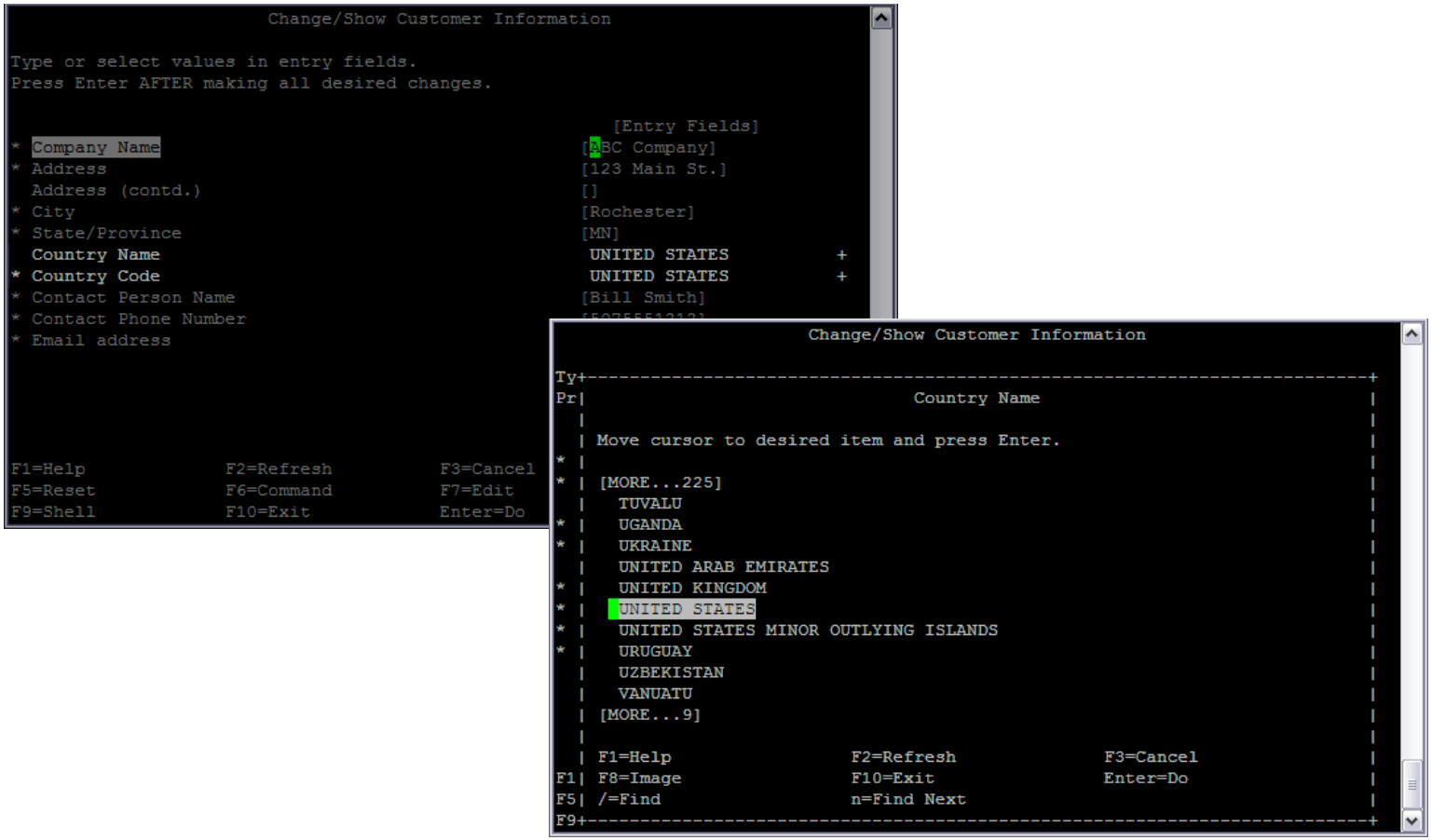
Change/Show Customer Information

- **Screen Examples**
  - Many required fields
  - Note ‘Country Code’ will show the Country Name, the ‘code’ will be saved correctly in the Performance Data



Change/Show Customer Information

- **Using Prompts**
  - Press F4 (or ESC+4) for prompting on Country Name and Country Code



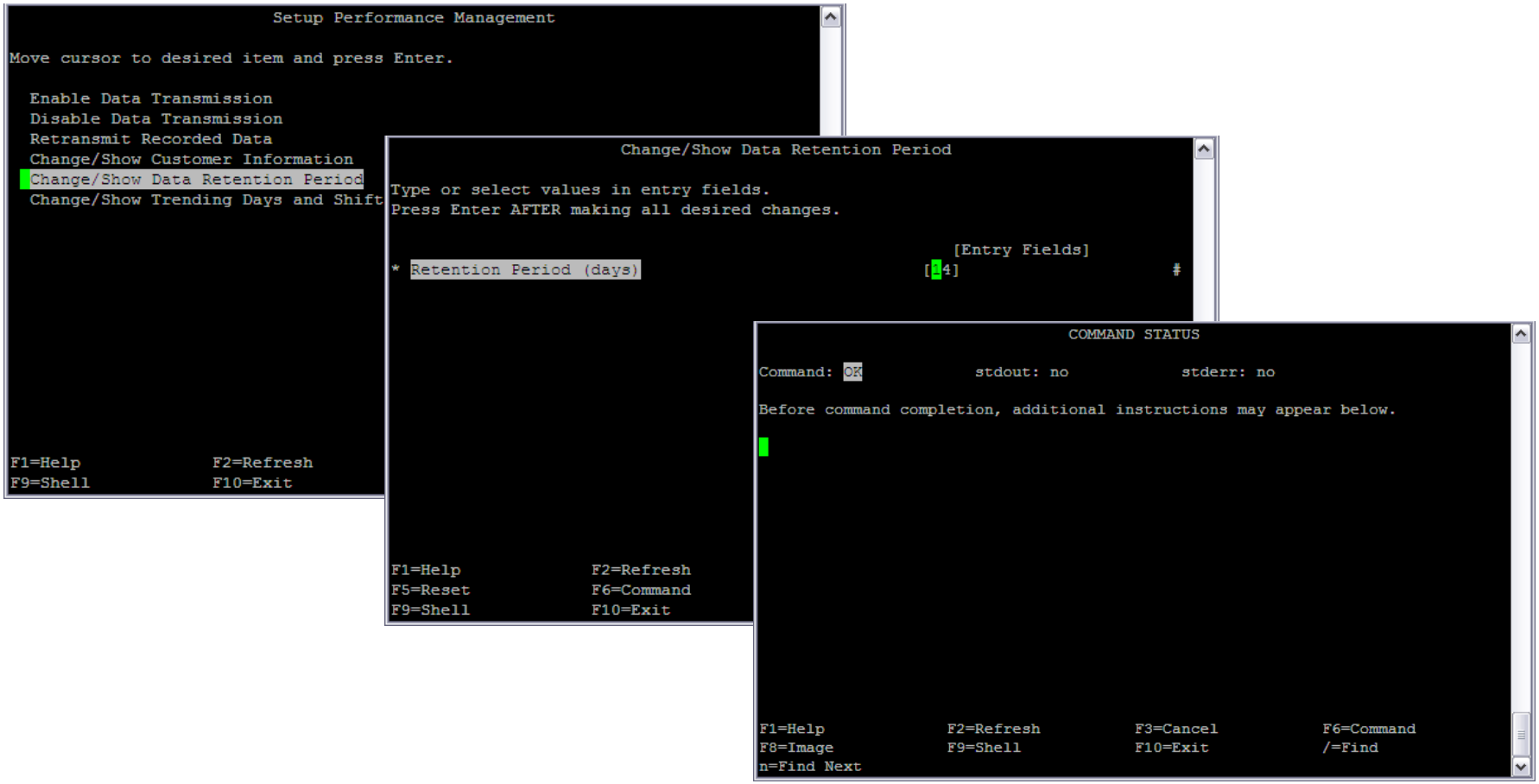
Change/Show Data Retention Period

- **Overview**
  - Specify how many days you want to save of the generated performance files
  - Default is 14 days, recommend at least 7 days
  - Generally the performance stats.send file is sent to IBM each day
  - If there was a problem, the performance file can be easily re-sent to IBM
- **Other Notes**
  - There is also an internal ‘raw’ performance data retention period for the files saved in the /etc/perf/daily directory
  - This setting does not effect these files

Note: The ‘raw’ performance data is generally saved in the /etc/perf/daily directory, but could also be in other locations

Change/Show Data Retention Period

- **Screen Examples**
  - Default value = 14 days
  - Minimum recommend value = 7 days

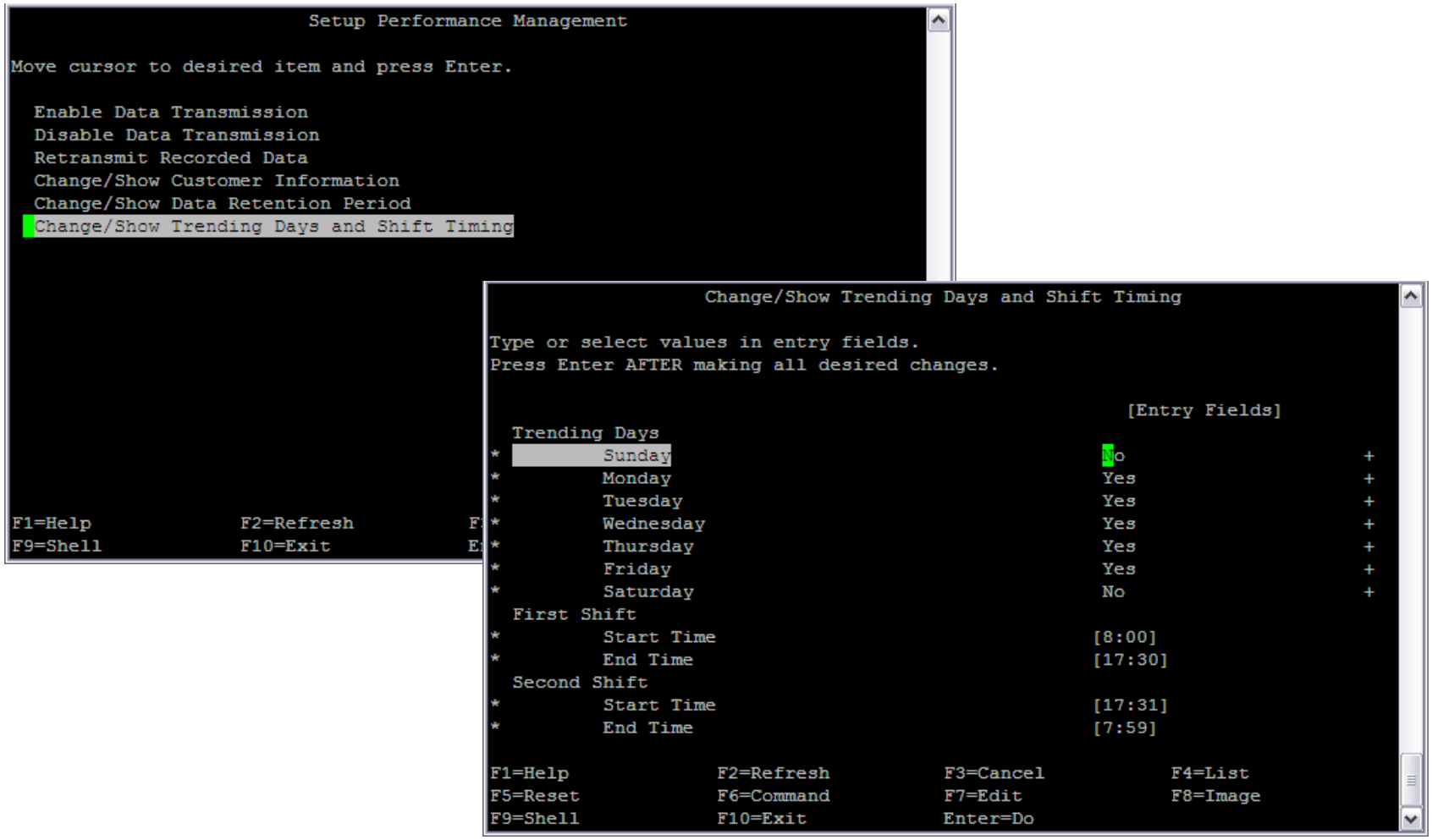


Change/Show Trending Days and Shift Timing

- **Overview**
  - All fields are required
  - Use this screen to define your primary business days
  - Defaults are Monday through Friday
  - You can also specify the start and end times for shift 1 & 2
  - Defaults are 08:00 to 17:30 for shift 1 and 17:31 to 7:59 for shift 2
  - Shift times are in [HH:MM] format (24 hour clock)
- **Other Notes**
  - Use F4 or ESC + 4 to prompt on Trending Days to select either Yes or No
  - PM for Power Systems trending graphs do not include non-business days

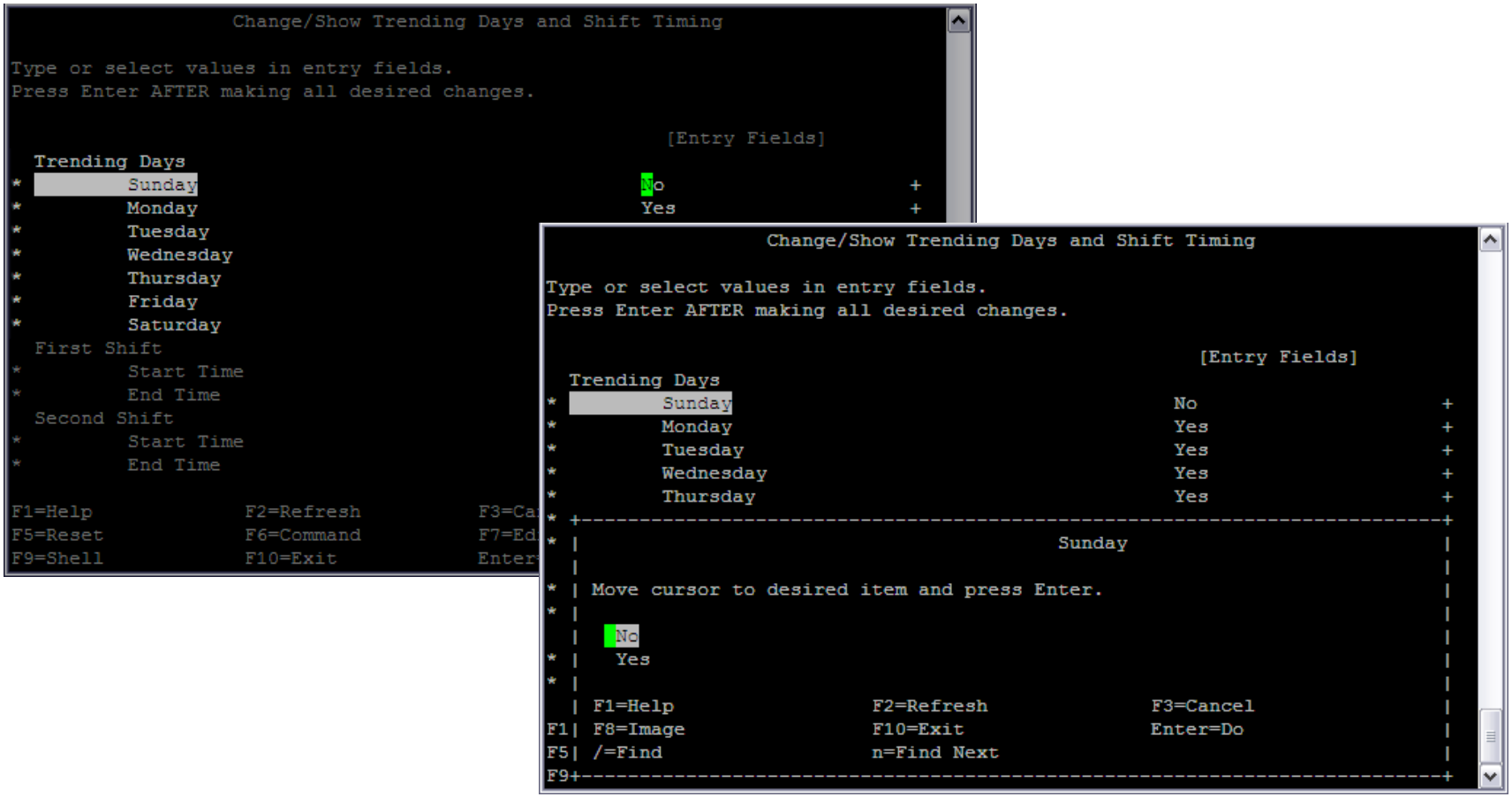
Change/Show Trending Days and Shift Timing

- **Screen Examples**



Change/Show Trending Days and Shift Timing

- **Using Prompts**
  - Press F4 (or ESC+4) for prompting on Trending Days



Change/Show Trending Days and Shift Timing

- **First & Second Shift Start/End Times**
  - In HH:MM format (24 hour clock)

```
                  Change/Show Trending Days and Shift Timing

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                      [Entry Fields]
  Trending Days
*         Sunday                                      No                  +
*         Monday                                      Yes                 +
*         Tuesday                                     Yes                 +
*         Wednesday                                   Yes                 +
*         Thursday                                    Yes                 +
*         Friday                                      Yes                 +
*         Saturday                                    No                  +
  First Shift
*         Start Time                                  [8:00]
*         End Time                                    [17:30]
  Second Shift
*         Start Time                                  [17:31]
*         End Time                                    [7:59]

F1=Help           F2=Refresh        F3=Cancel         F4=List
F5=Reset          F6=Command        F7=Edit           F8=Image
F9=Shell          F10=Exit          Enter=Do
```

Summary

- **To access the 'Setup Performance Management' smit menu**
  - From AIX prompt
  - smit → 'Performance & Resource Scheduling' → 'Topas' → 'Setup Performance Management'
  - smit SetUpPm
- **From the 'Setup Performance Management' smit menu, you can**
  - Enable Data Transmission
  - Disable Data Transmission
  - Retransmit Recorded Data
  - Change/Show Customer Information
  - Change/Show Data Retention Period
  - Change/Show Trending Days and Shift Timing
- **Important Information**
  - You can't Enable Data Transmission until you have entered the Customer Information and have an Active Recording
  - You can't Retransmit Recorded Data if there is not an Active Recording

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IBM

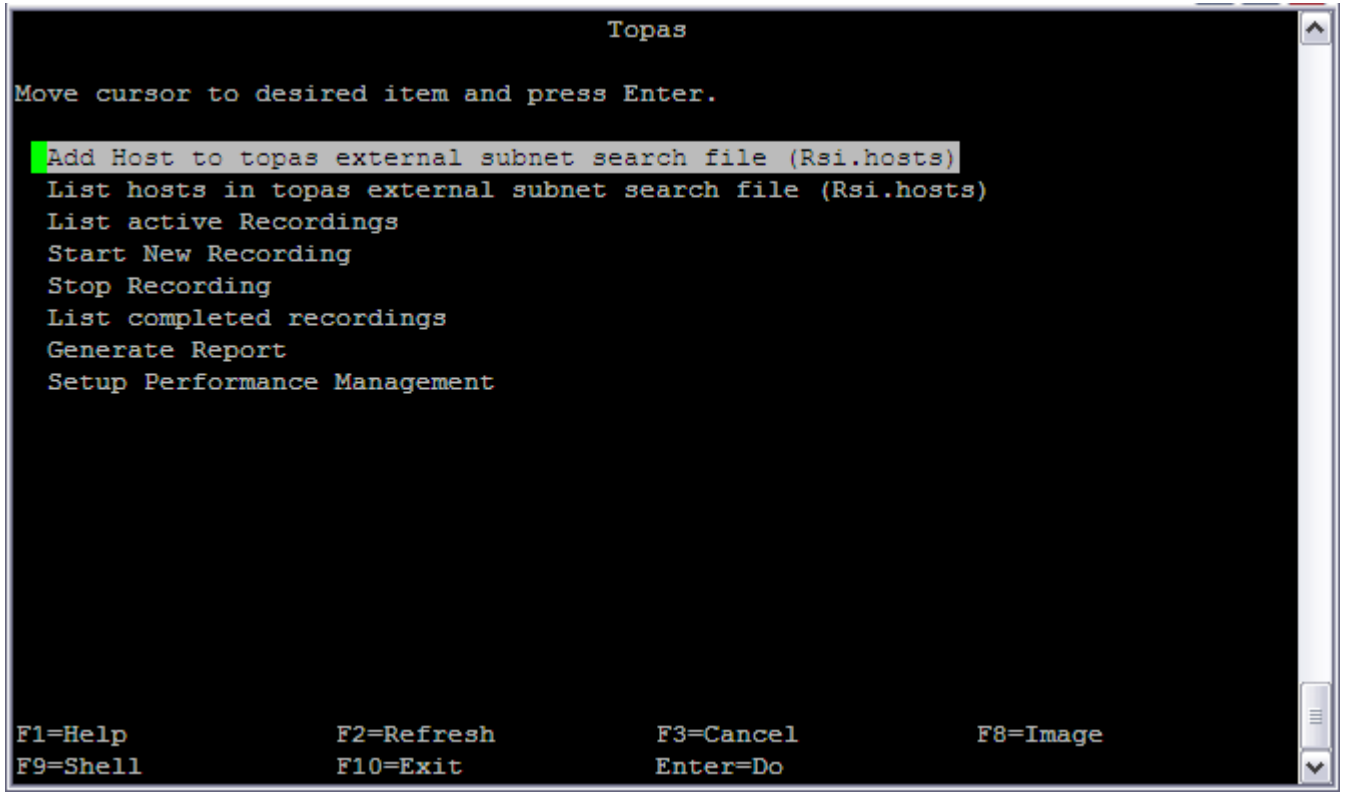
PM AIX Collection Agent Recording Options

PM AIX Collection Agent Recording Options

- **List active Recordings**
  - List the current running recordings on the system in the user specified directory
- **Start New Recording**
  - This menu helps start recordings (local, cec and persistent) based on subsequent selections
- **Stop Recording**
  - Allows stopping an active recording
- **List Completed Recordings**
  - Lists all the recordings available in the system in a tabular format

PM AIX Collection Agent Recording Options

- **From AIX prompt**
  - smit → 'Performance & Resource Scheduling' → 'Topas'
  - smit topas

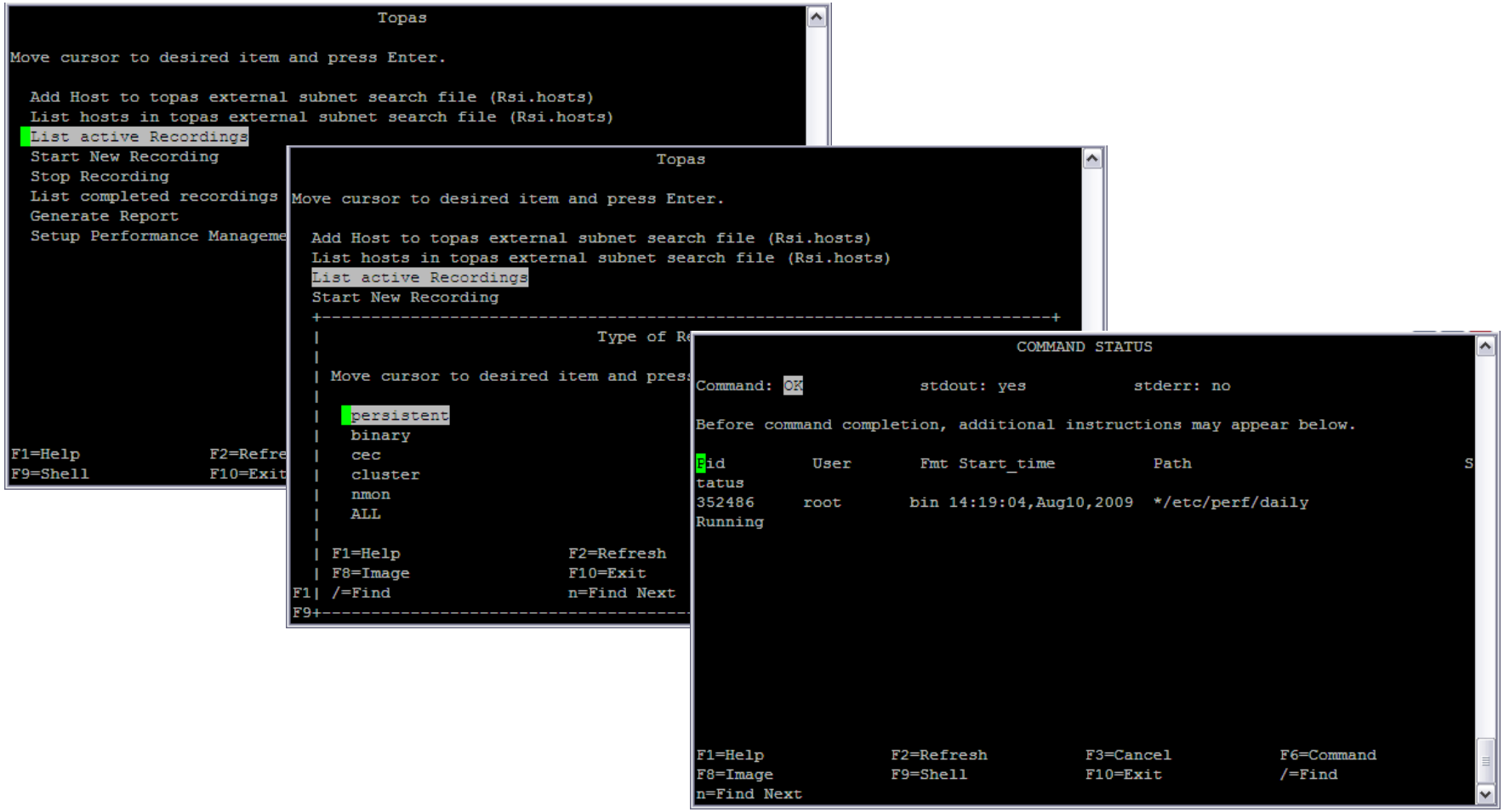


List active Recordings

- **Overview**
  - This option will list the Format, Start time, and Output path of the active recordings and their specified path.
  - The output path of all persistent recordings will be prefixed by the asterisk (*). For persistent local binary recording with WLE enabled, the output path will be prefixed by the number sign (#).
- **Other Notes**
  - There are several recording types
  - PM AIX Collection Agent only supports ‘Persistent local Binary Recording’ format
  - WLE enabled is not the same as ‘Size Next Upgrade’ on the PM for Power Systems website.

List active Recordings

- **Screen Examples**

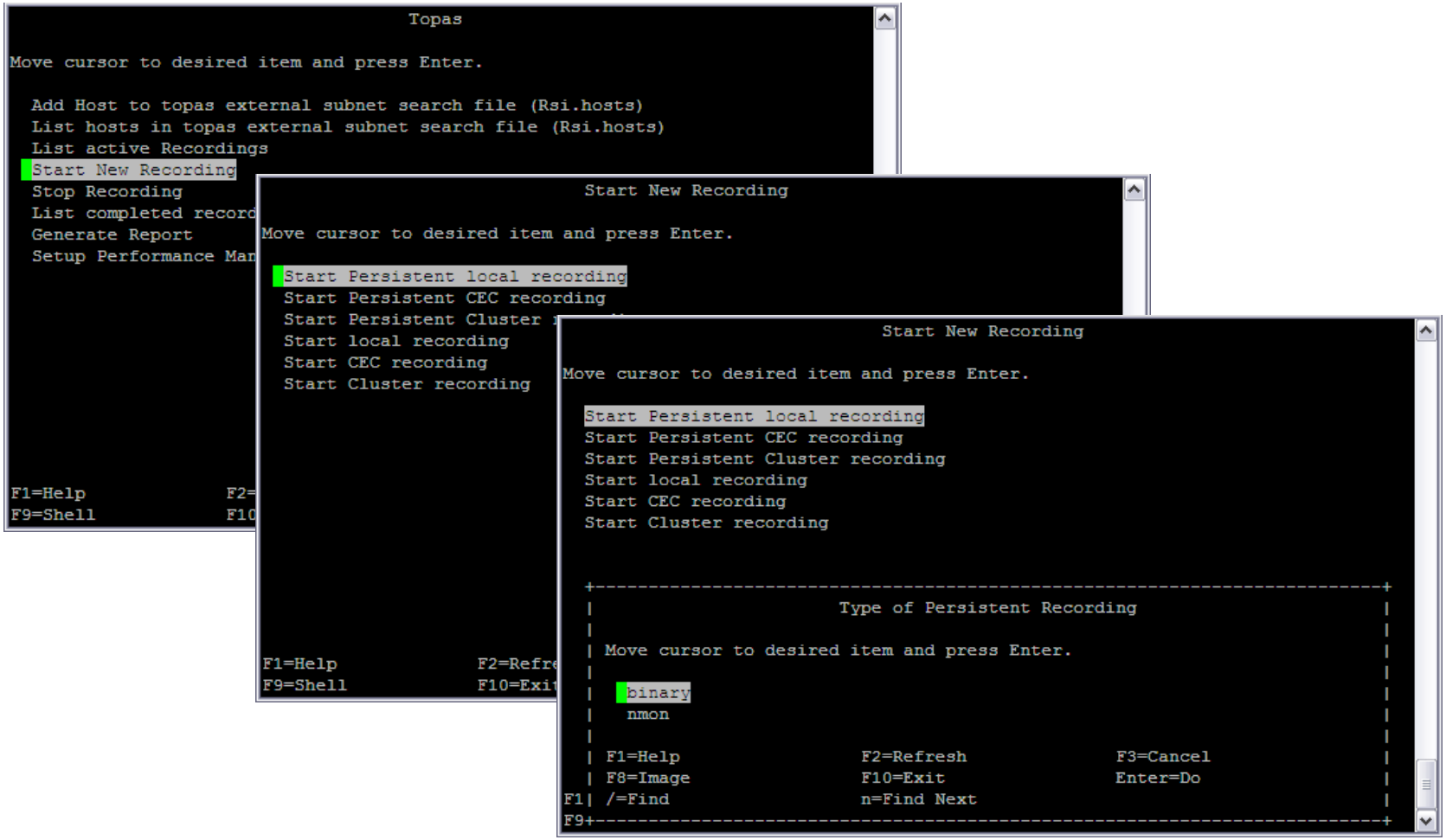


Start New Recording

- **Overview**
  - Use ‘Start new Recording’ to start CEC/local persistent/non-persistent recording based on the user selected inputs. The user will be presented with separate menus for starting CEC/local persistent/non-persistent recording.
- **Other Notes**
  - You are not allowed to start the same recording type if it is already active
  - There are several recording types, PM AIX Collection Agent only supports ‘Persistent local Binary Recording’ format
  - If the output path is not specifed, the root ‘/’ is used. It is recommend that the default path of ‘/etc/perf/daily’ be used when starting a new recording
  - Stopping & Starting a recording on same day may require setting ‘Overwrite existing recording file’ to be ‘yes’

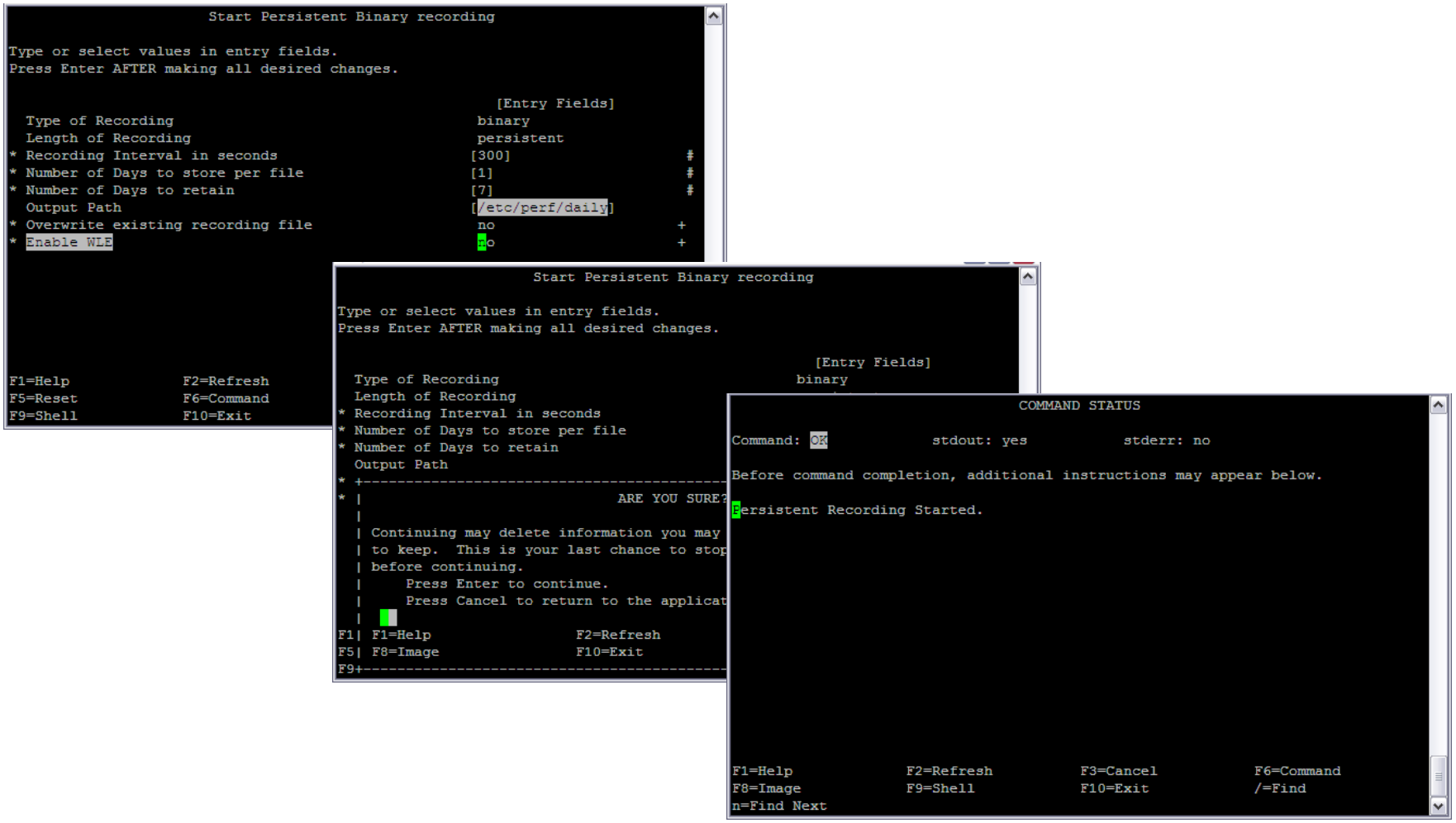
Start New Recording

- **Screen Examples**



Start New Recording

- **Screen Examples (cont.)**

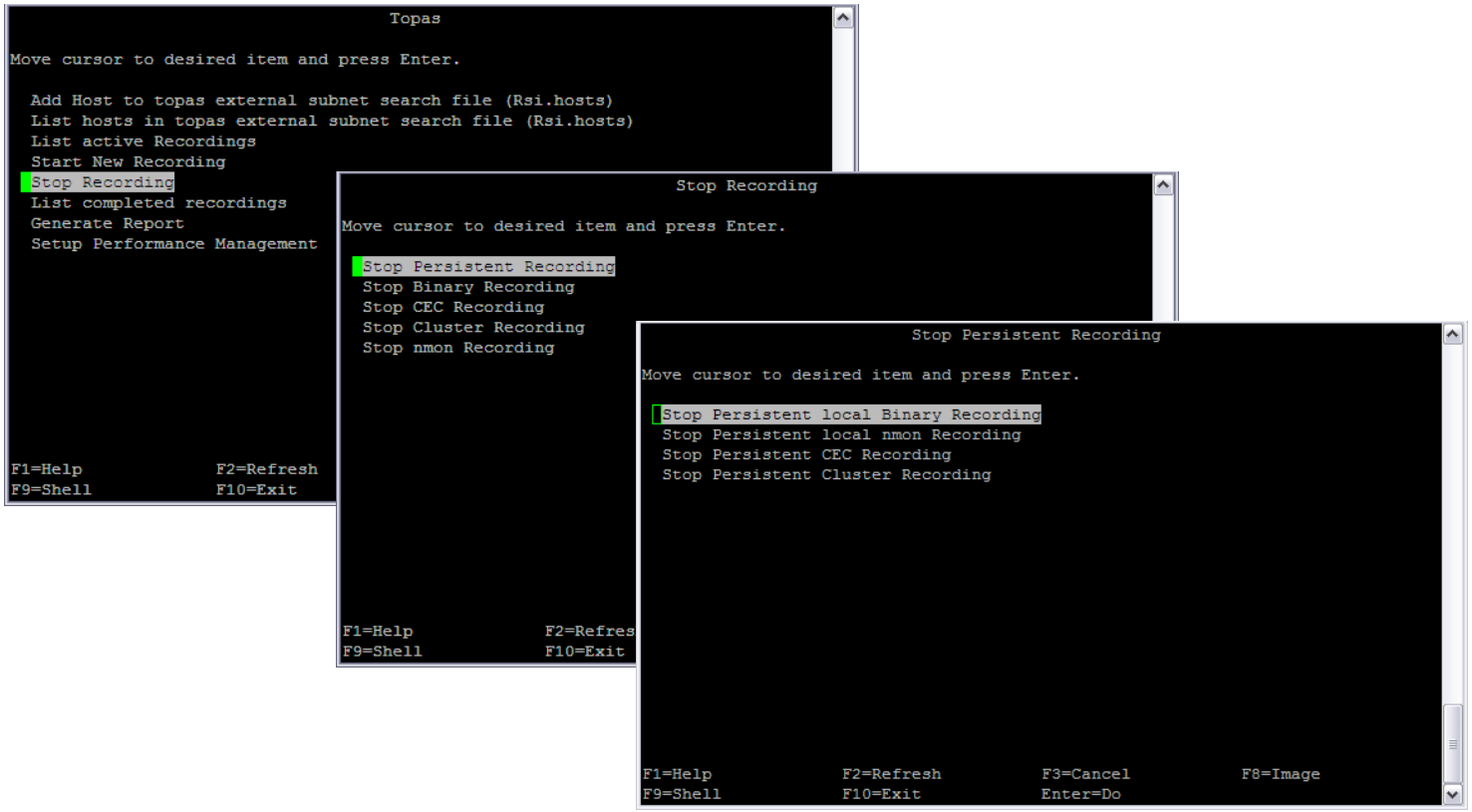


Stop Recording

- **Overview**
  - Use the Stop recording to stop the current running recording. The user can select one particular running recording from the list and stop it.
  - From the menu, the user has to select the type of recording to stop. After selecting the type of recording, the currently running recording will be listed on the menu. The user can then select a recording to be stopped.
- **Other Notes**
  - Data Transmission must be Disabled before you can stop the recording
  - You can stop either PM AIX Collection Agent recording or WLE Recording using the appropriate ‘PM Service’ or ‘WLE Collection’ choices

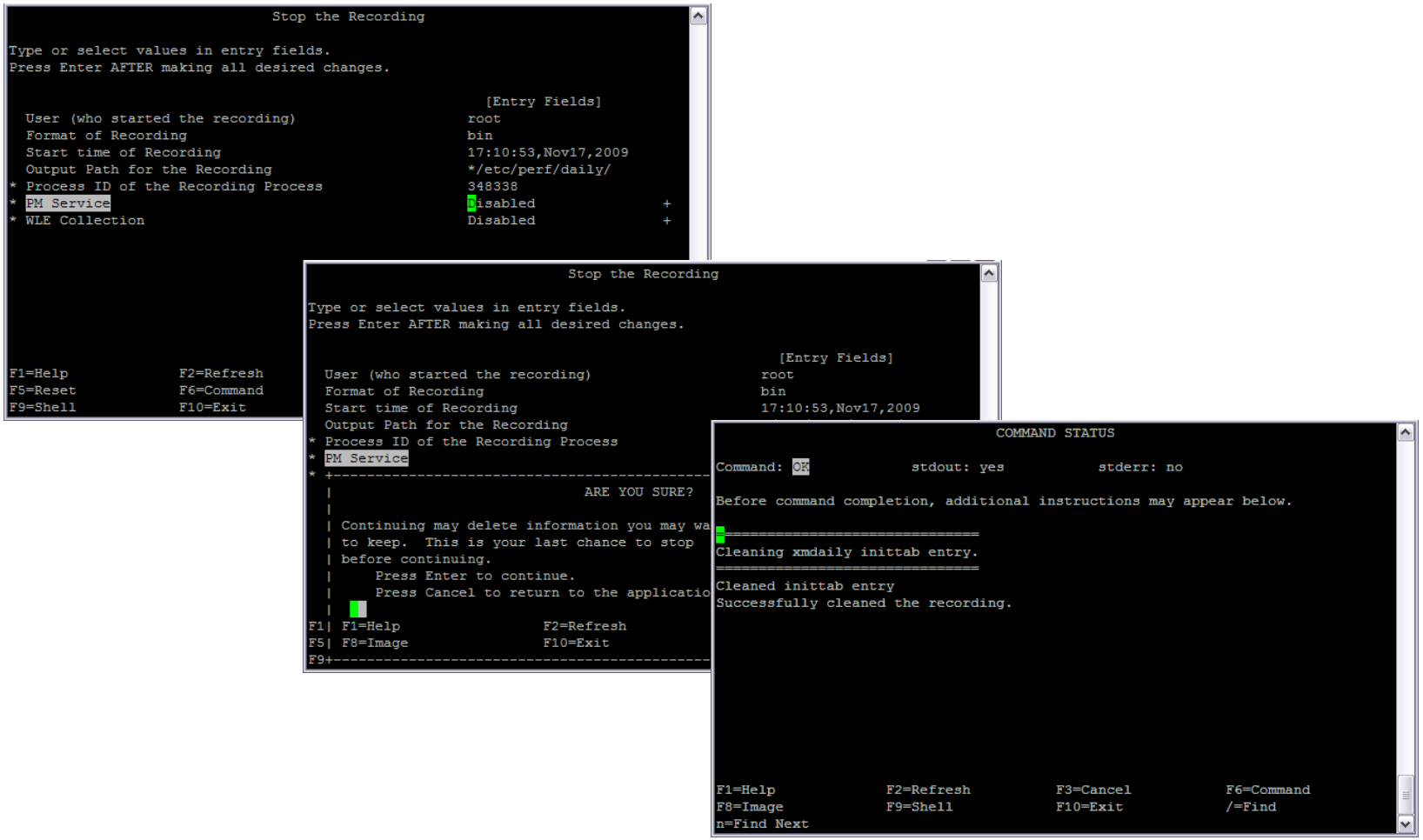
Stop Recording

- **Screen Examples**
  - Assumes Data Transmission has been Disabled
  - There is an active recording



Stop Recording

- **Screen Examples (cont.)**

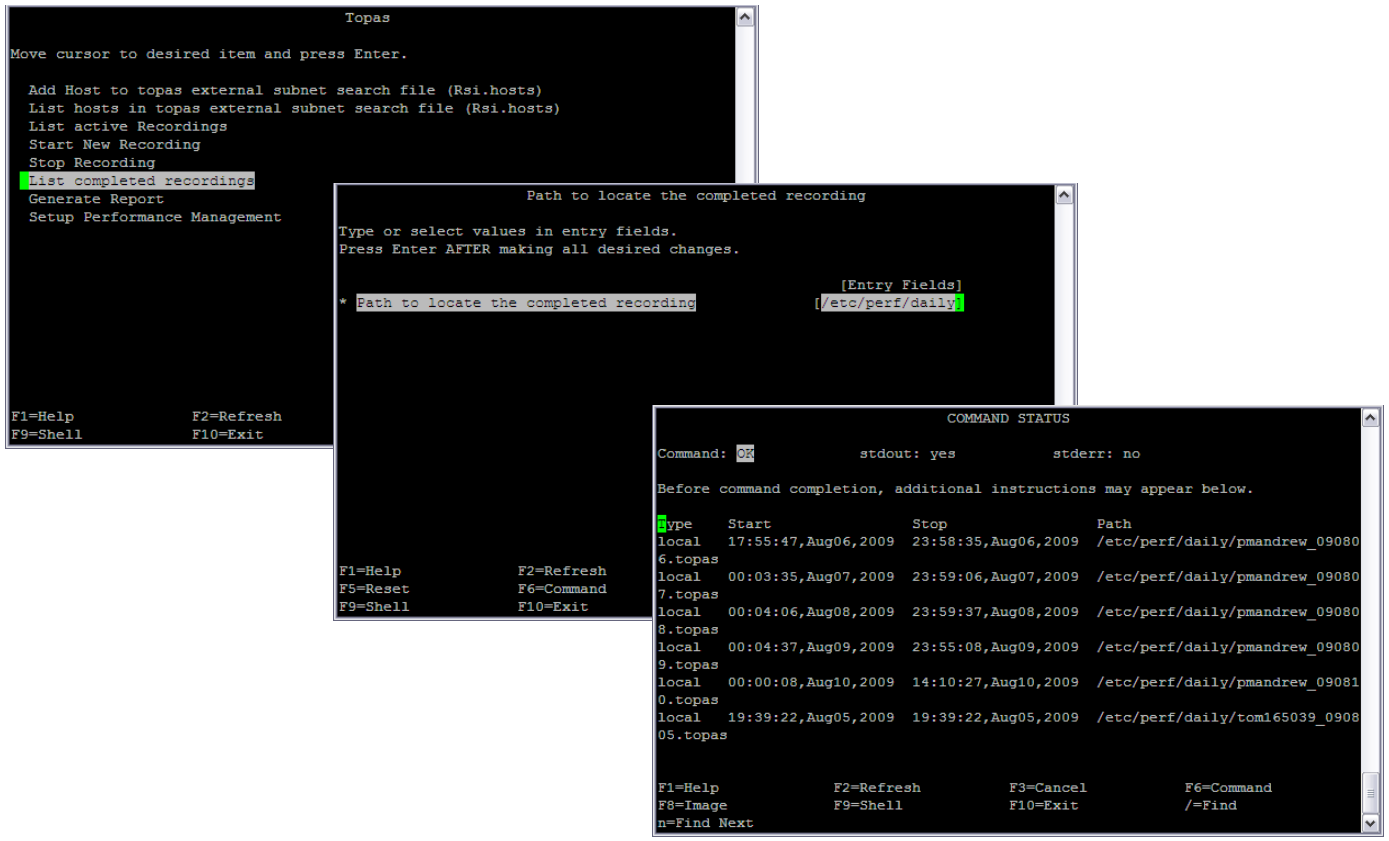


List completed recordings

- **Overview**
  - Use List completed recordings to display a list of the completed recording in the user specified directory path.
  - This will list the Recording Type, Start time and Stop time of the completed recordings in the specified path.

List completed recordings

- **Screen Examples**
  - Assumes there are some recordings in /etc/perf/daily



Summary

- **To access the 'Topas' smit menu**
  - From AIX prompt
  - smit → 'Performance & Resource Scheduling' → 'Topas'
  - smit toas
- **From the 'Topas' smit menu, you can**
  - List active Recordings
  - Start New Recording
  - Stop Recording
  - List completed recordings

- **Important Information**
  - There are several recording types, PM AIX Collection Agent only supports 'Persistent local Binary Recording' format
  - When starting a recording, it is recommended to use the default path of /etc/perf/daily. Leaving the path empty will save recordings onto the root '/' directory
  - You must Disable Data Transmission before trying to stopping an active recording

IBM Performance Management
for Power Systems

www.ibm.com/systems/power/support/pm/

IBM

Sending Performance Data to IBM

Sending Performance Data to IBM

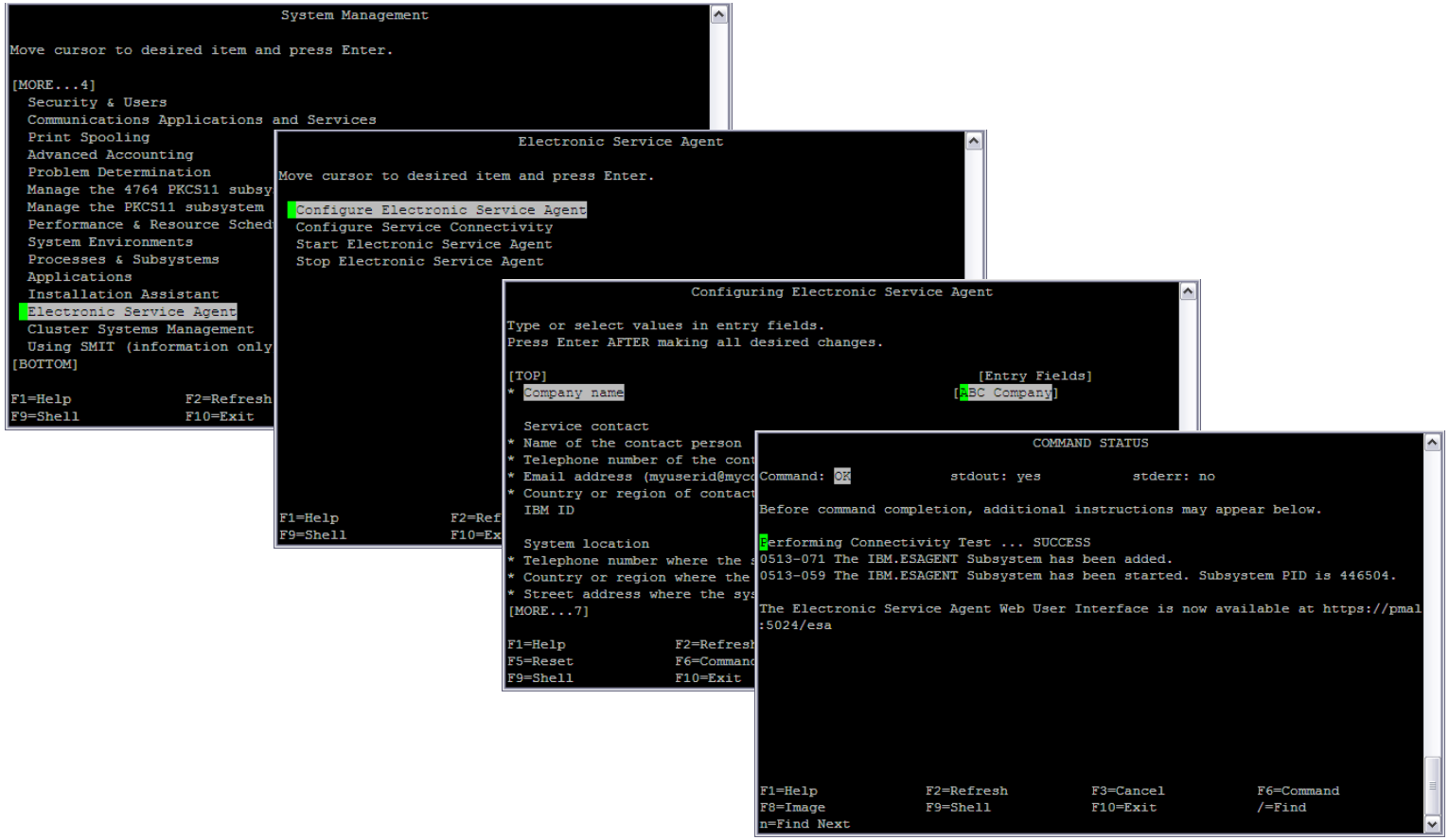
- **Select what method to use**
  - Hardware Management Console (HMC)
  - Electronic Service Agent (ESA)
- **Important Information**
  - It is not recommend that you use both HMC and ESA to send performance data to IBM
  - It is recommended that you change the default time to 01:00am to send the performance information to IBM

Configuring Electronic Service Agent (ESA)

- **Overview**
  - Several ways to get to the ESA menu
    - smit → 'Electronic Service Agent'
    - smit → 'Problem Determination' → 'Electronic Service Agent'
  - Configure ESA
    - Enter Contact & Address information
    - Confirm test was successful
    - Note the port # to access the web interface
  - Connect to ESA web page, https://servername:5024/esa/login.faces
  - More information about ESA
    - http://www.ibm.com/support/electronic
- **Important Information**
  - Once you have configured ESA, the performance data will be sent to IBM automatically each day
  - You can change the default time the information is sent via the Electronic Service Agent web page → Settings → Performance management collection

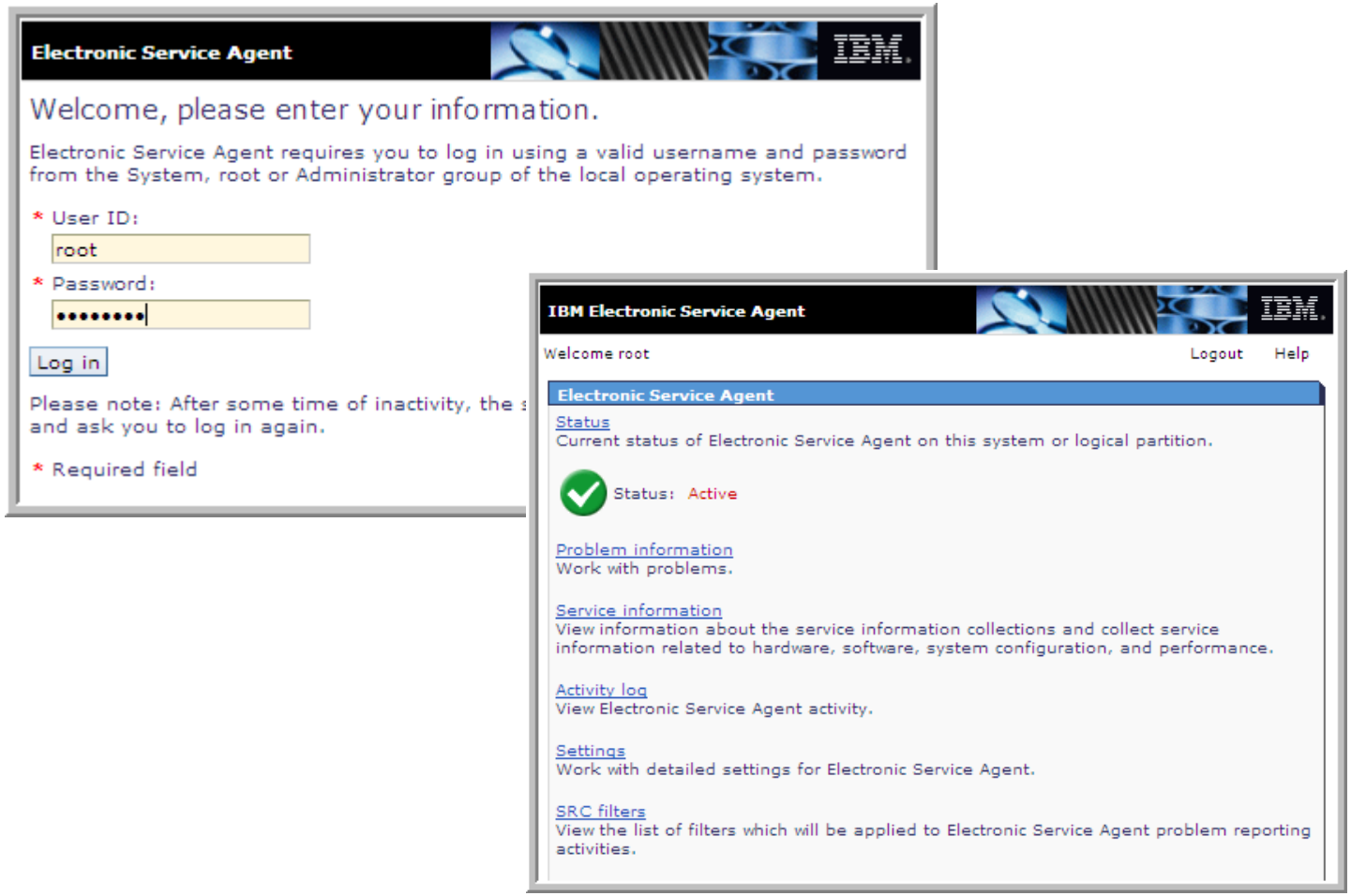
Configuring Electronic Service Agent (ESA)

- **Screen Examples**



Configuring Electronic Service Agent (ESA)

- **Screen Examples (cont.)**

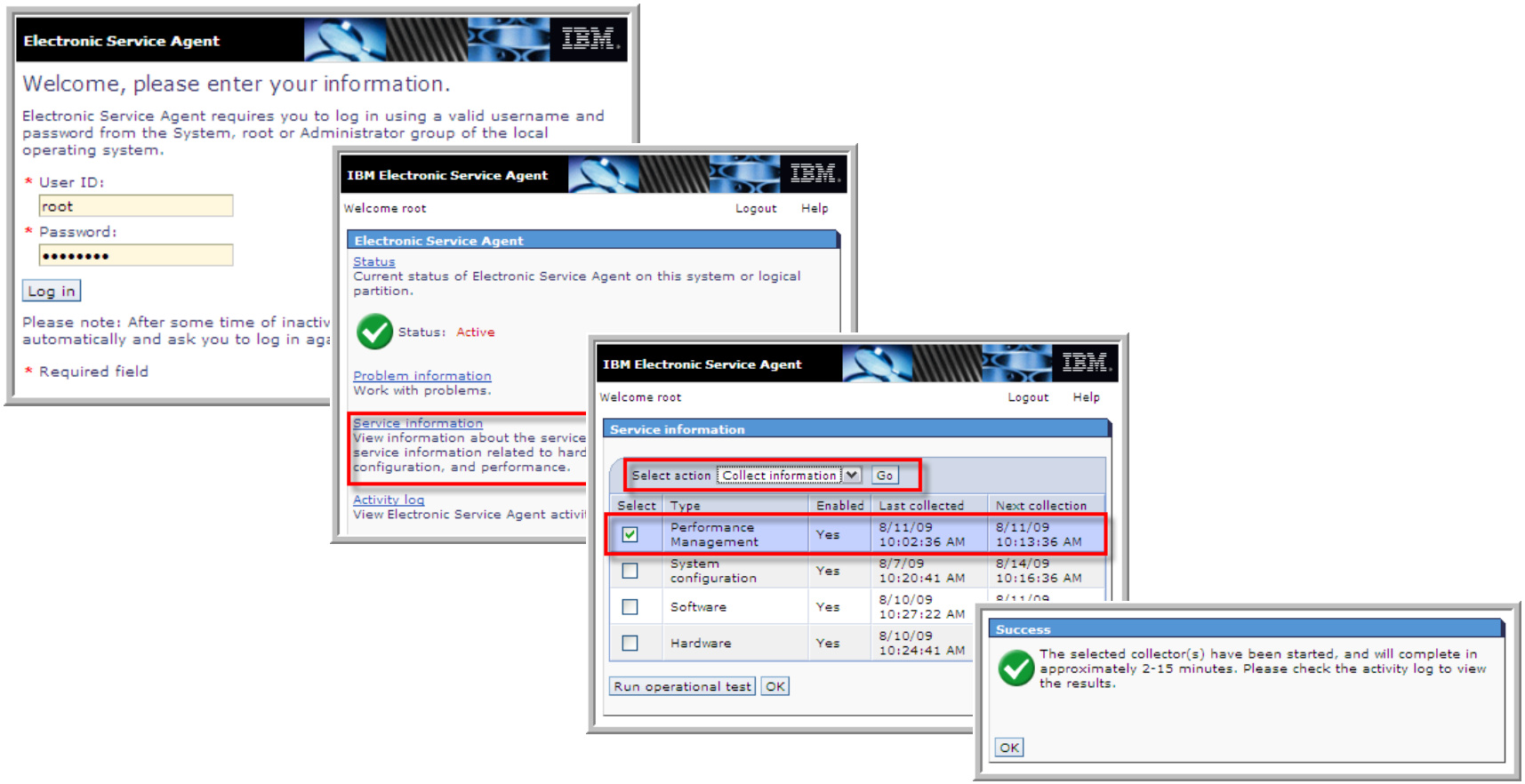


Sending Performance Data to IBM Using Electronic Service Agent (ESA)

- **Overview**
  - PM AIX Collection Agent has been properly configured
    - Customer Information have been entered
    - Active Recording Started
    - Data Transmission has been enabled
    - Performance data has been collecting for at least one day
  - Manually Sending Performance Data to IBM using ESA
    - Connect to ESA web interface, example: https://servername:5024/esa/login.faces
    - Login as root
    - Click the ‘Service information’ link
    - Check ‘Performance Management’
    - Select ‘Collect information’ in Select Action combo box
    - Click ‘Go’
    - Click ‘OK’ twice to get back to main screen
  - To confirm the Performance Data was sent
    - Click ‘Activity log’
    - Note ‘Performance Management data sent.’ message

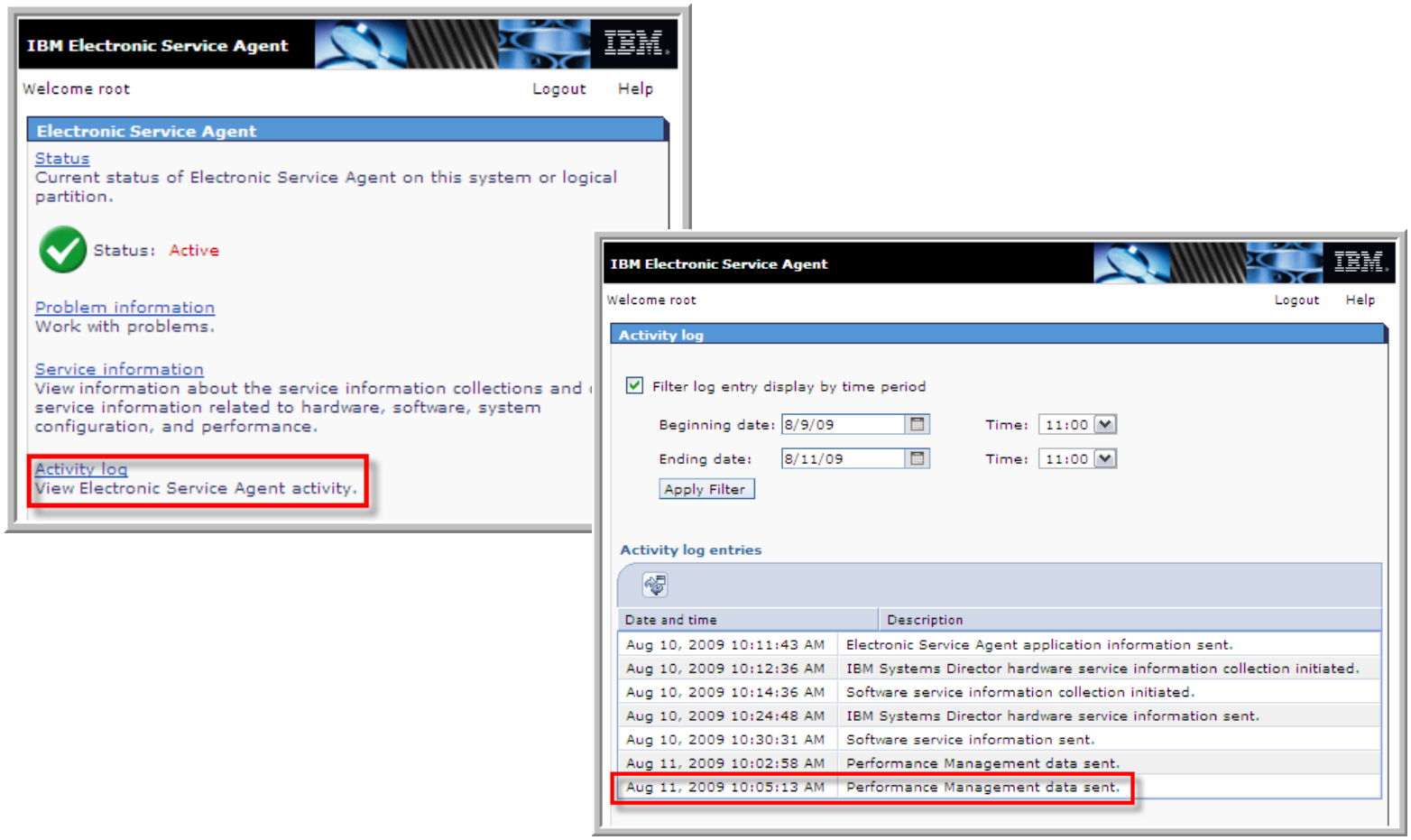
Manually Sending Performance Data to IBM Using ESA

- **Screen Examples**



Manually Sending Performance Data to IBM Using ESA

- **Screen Examples (cont.)**

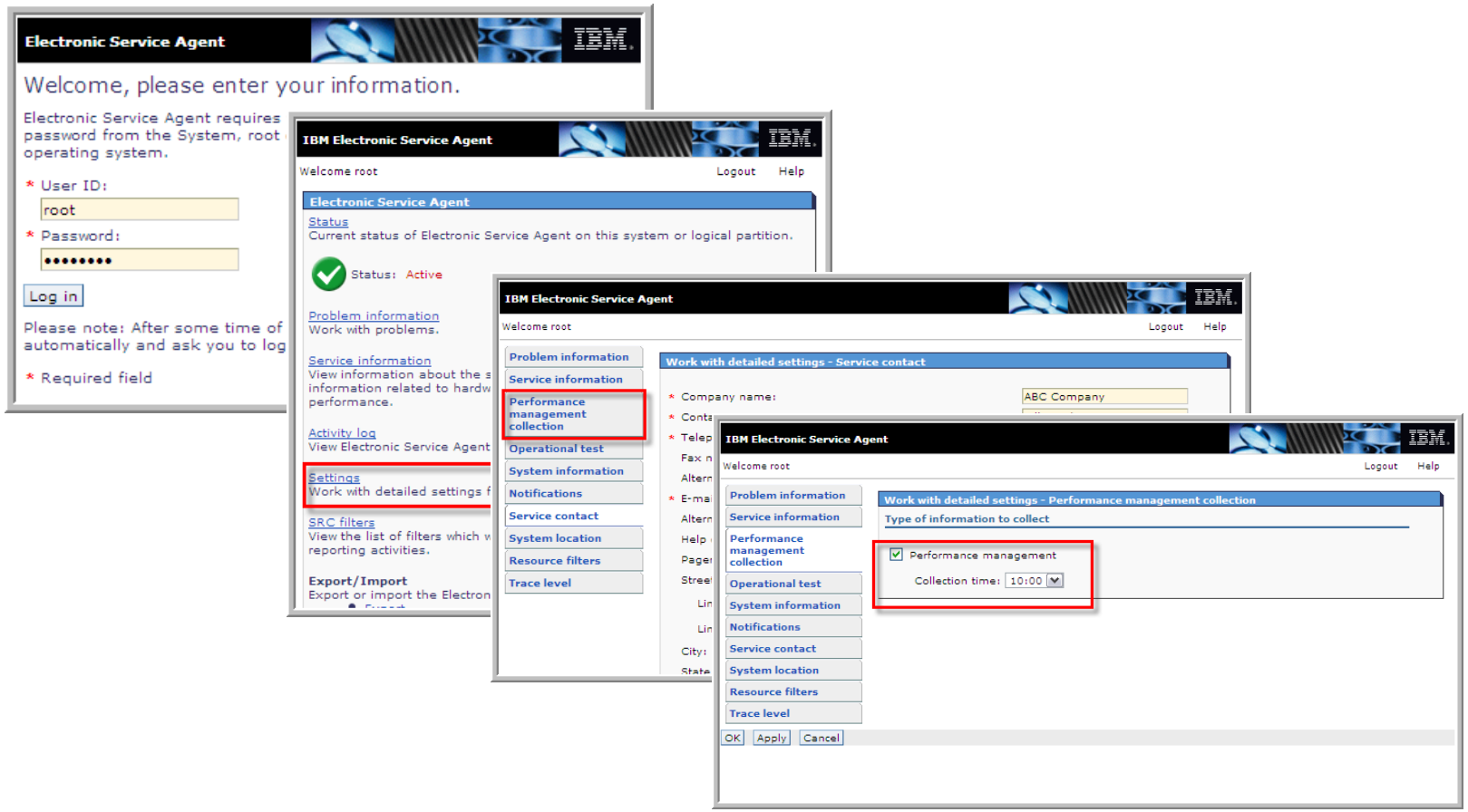


Configure Time to Send Performance Data to IBM Using ESA

- **To configure what time the Performance Data to IBM using ESA**
  - Connect to ESA web interface, example: https://servername:5024/esa/login.faces
  - Login as root
  - Click the ‘Settings’ link
  - Check ‘Performance management collection’
  - Set the time that you desire
  - Click ‘OK’ or ‘Apply’

Configure Time to Send Performance Data to IBM Using ESA

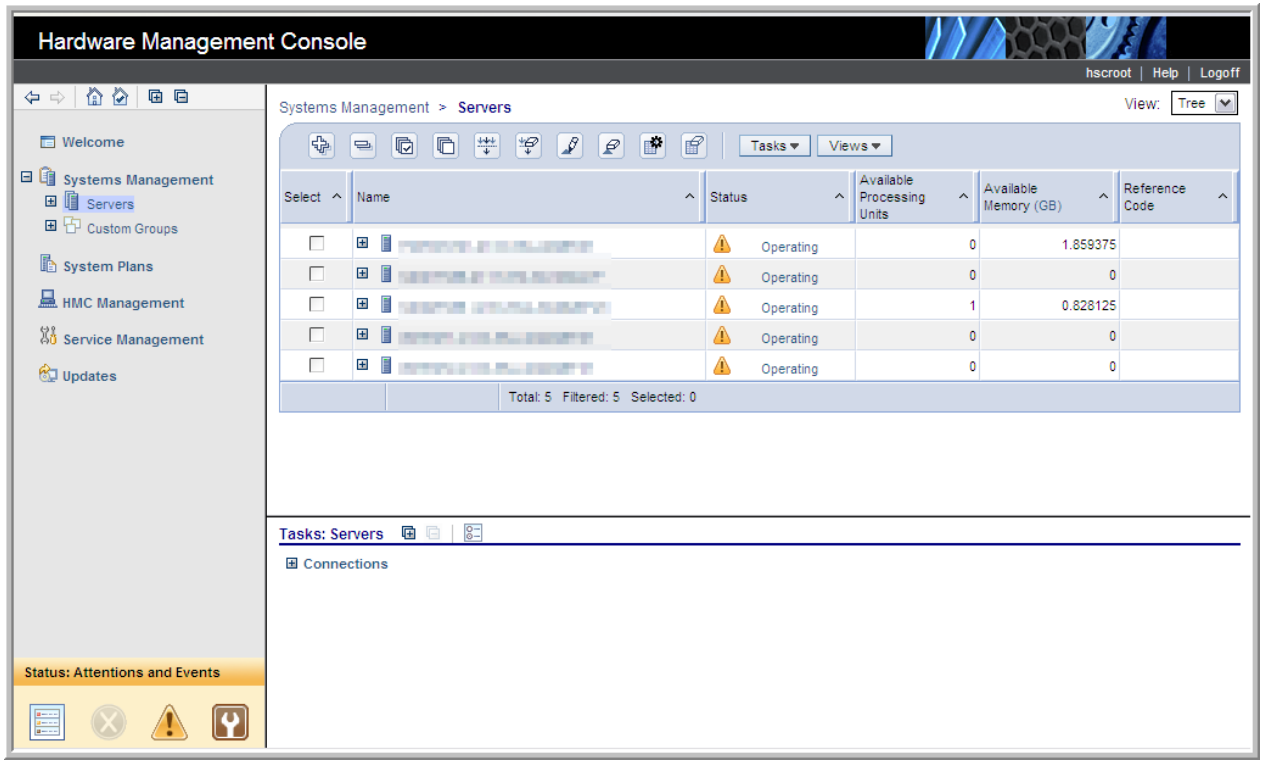
- **Screen Examples**



It is recommended that you change the default time to 01:00am to send the performance information to IBM.

Configuring Hardware Management Console (HMC)

- **Overview**
  - Add Server to HMC
  - No other settings needed

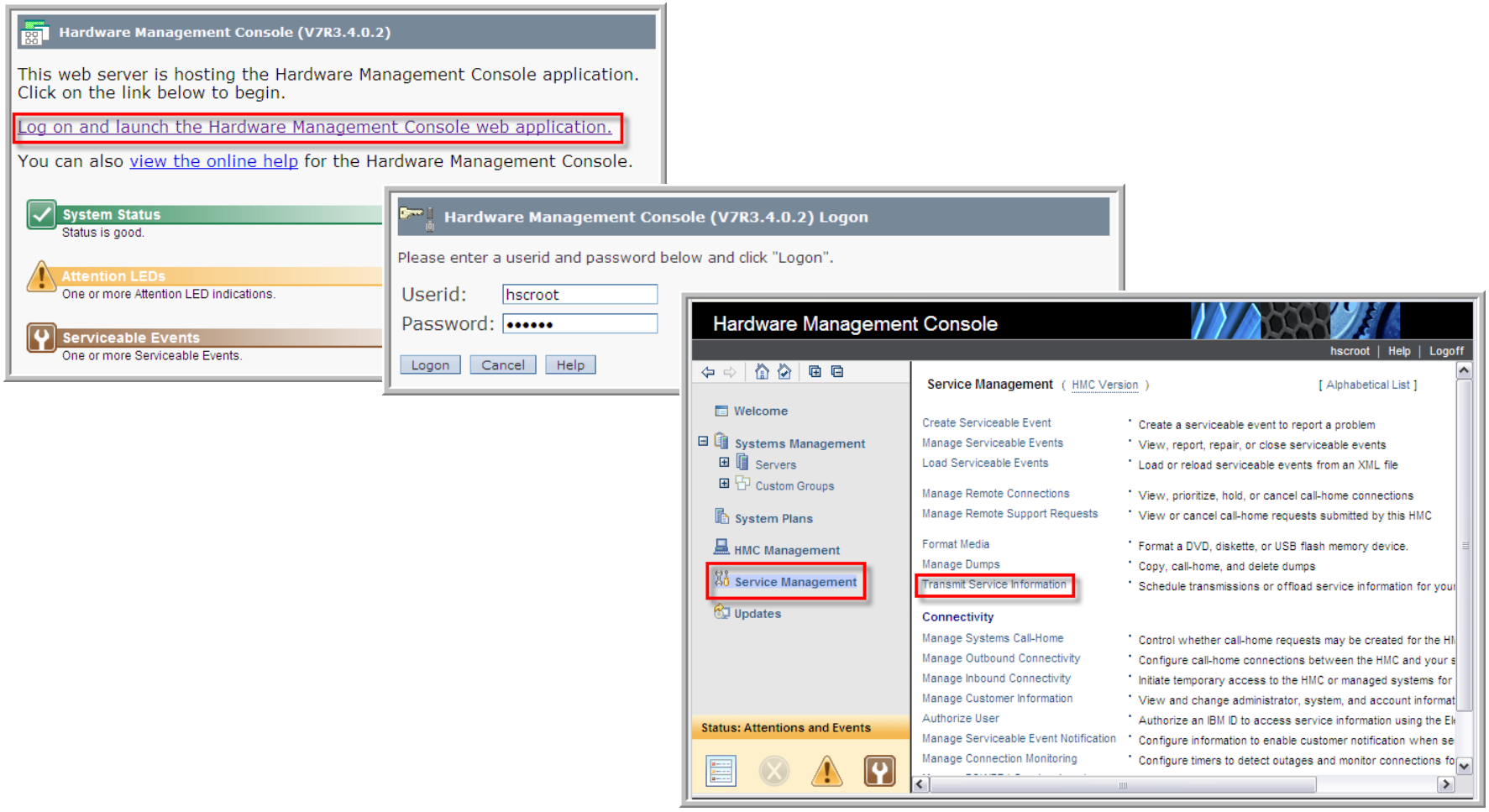


Manually Sending Performance Data to IBM Using Hardware Management Console (HMC)

- **Overview**
  - PM AIX Collection Agent has been properly configured
    - Customer Information have been entered
    - Active Recording Started
    - Data Transmission has been enabled
    - Performance data has been collecting for at least one day
  - Manually Sending Performance Data to IBM from HMC
    - Connect to HMC web login page, example https://hmcserver
    - Click the ‘Log on and launch the Hardware Management Console web application.’ link
    - Login
    - Select ‘Service Management’ link on left side
    - Select ‘Transmit Service Information’ link in the middle
    - In the ‘Performance management transmission:’ section, click the ‘Send’ button
    - Click ‘OK’ several times to get back to the main HMC window
  - To confirm the Performance Data was sent
    - Click the ‘HMC Management’ link on left side
    - Select ‘View HMC Events’ link in the middle
    - Note ‘Successfully transmitted performance information’ message

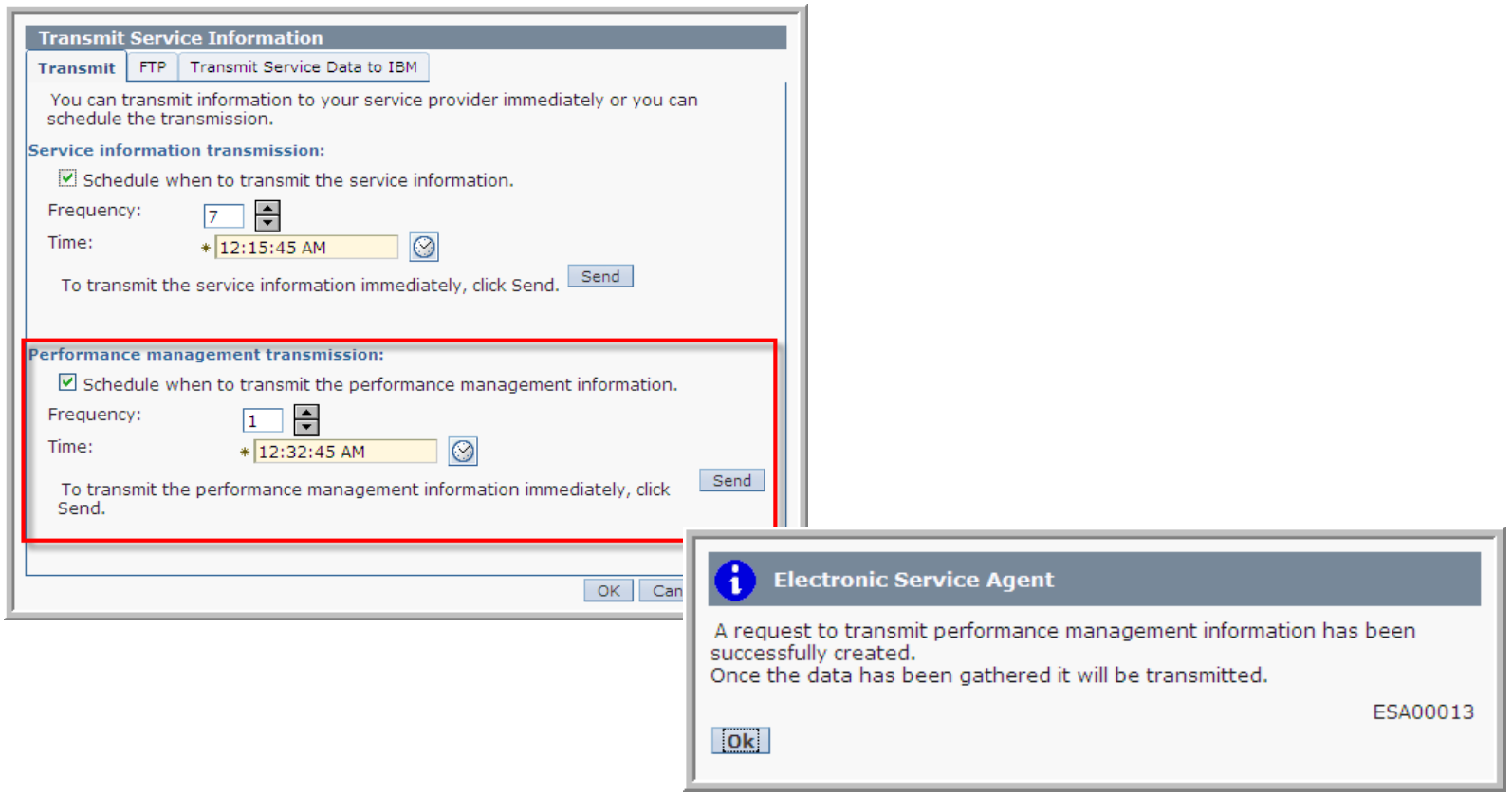
Manually Sending Performance Data to IBM Using HMC

- **Screen Examples**



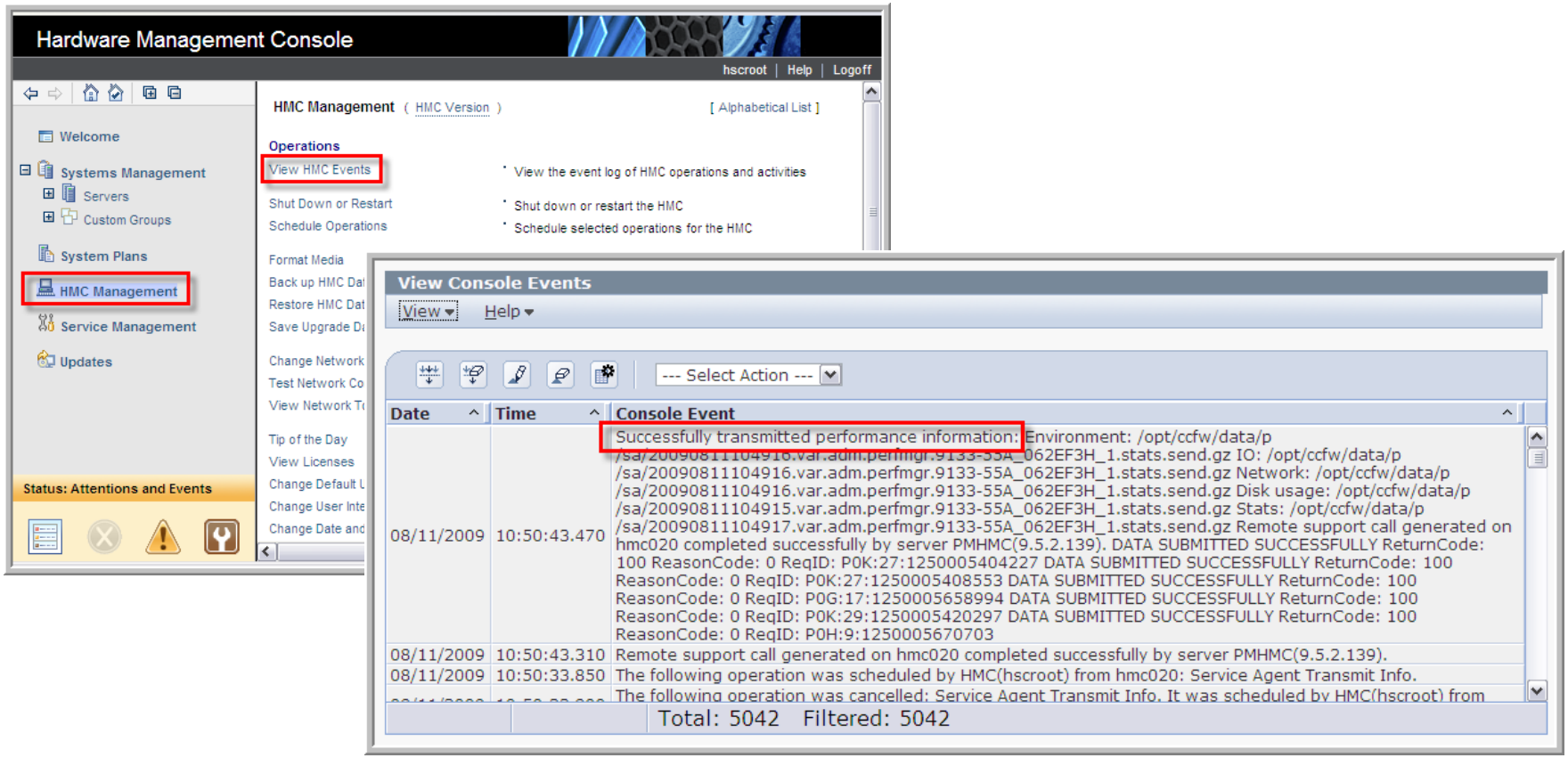
Manually Sending Performance Data to IBM Using HMC

- **Screen Examples (cont.)**



Manually Sending Performance Data to IBM Using HMC

- **Screen Examples (cont.)**

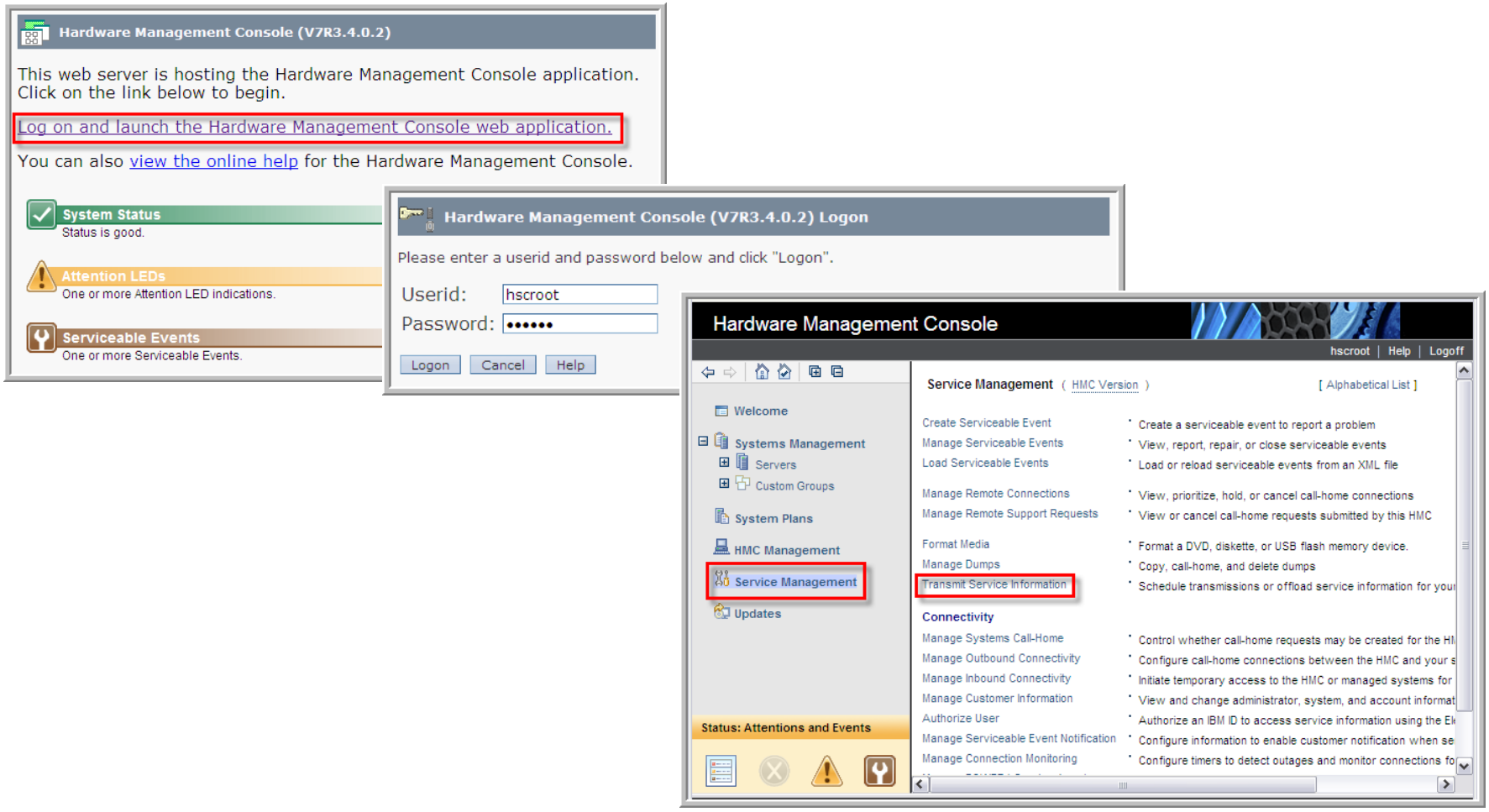


Configure Time to Send Performance Data to IBM Using HMC

- **To configure what time the Performance Data to IBM using HMC**
  - Connect to HMC web login page, example https://hmcserver
  - Click the ‘Log on and launch the Hardware Management Console web application.’ link
  - Login
  - Select ‘Service Management’ link on left side
  - Select ‘Transmit Service Information’ link in the middle
  - In the ‘Performance management transmission:’ section, set the time that the performance data will be sent
  - Click ‘OK’ several times to get back to the main HMC window

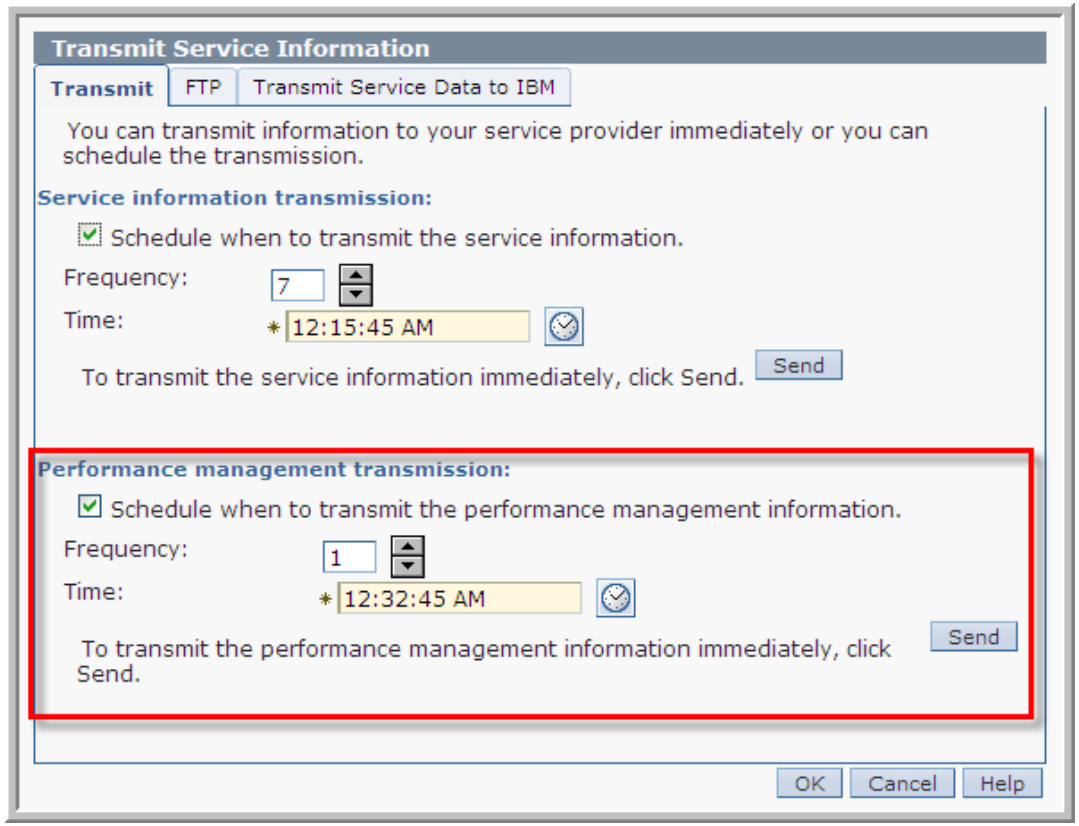
Configure Time to Send Performance Data to IBM Using HMC

- **Screen Examples**



Configure Time to Send Performance Data to IBM Using HMC

- **Screen Examples (cont.)**



It is recommended that you change the default time to 01:00am to send the performance information to IBM.

Summary

- **Performance data can be sent to IBM using**
  - Hardware Management Console (HMC)
  - Electronic Service Agent (ESA)
  - You can schedule a time to send performance data or manually send the current performance data to IBM
- **Important Information**
  - It is not recommend that you use both HMC and ESA to send performance data to IBM
  - It is recommended that you change the default time to 01:00am to send the performance information to IBM.

IBM Performance Management for Power Systems

www.ibm.com/systems/power/support/pm/

IBM

Viewing Performance Graphs on PM for Power Systems Web Site

Viewing Performance Graphs on PM for Power Systems Web Site

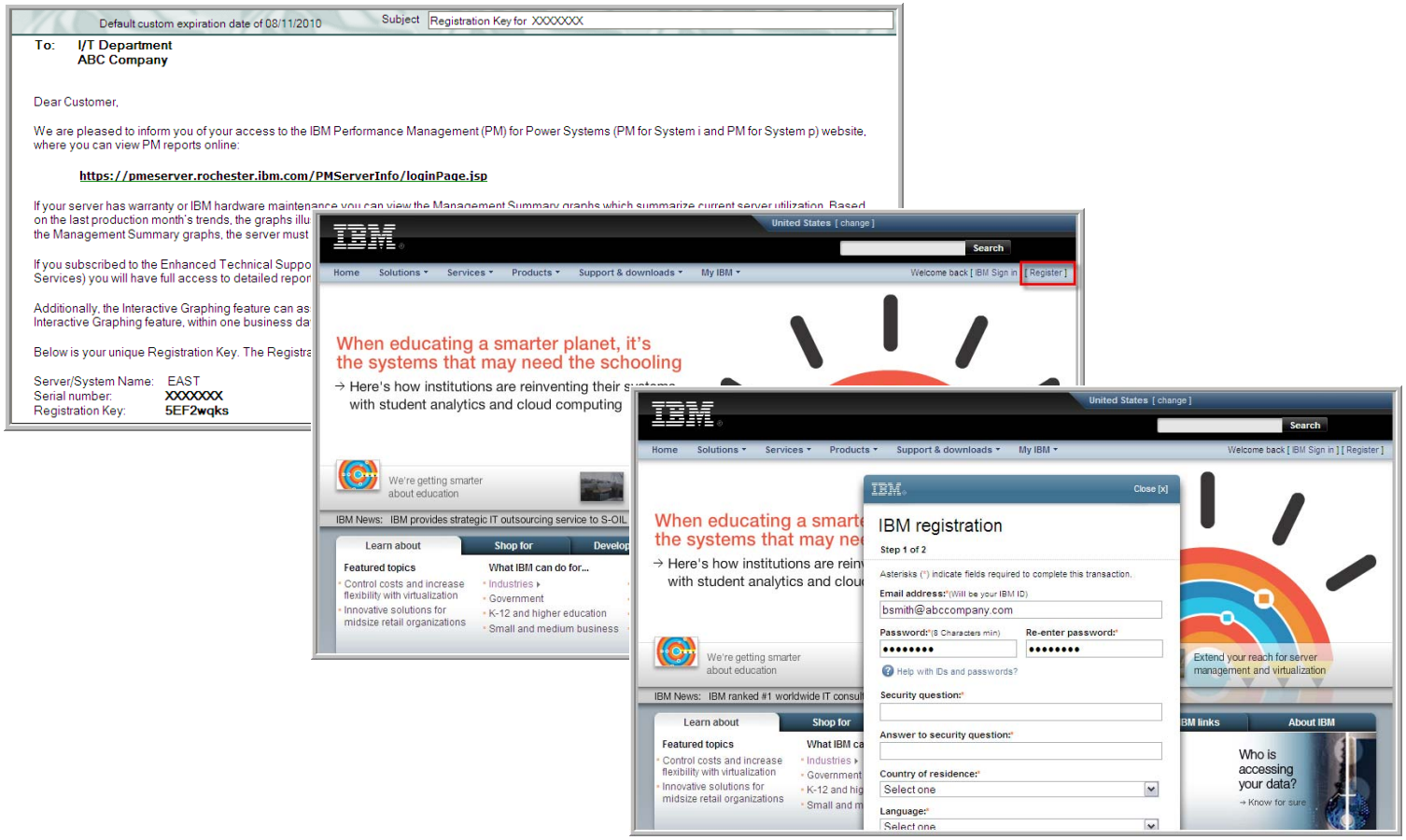
- **PM for Power Systems Login URL**
  - Login URL: https://pmeserver.rochester.ibm.com
- **Different Entitlement Options**
  - Free – Management Summary Graph
  - Fee – Interactive Graphing
  - For more information, please visit the PM for Power Systems web site: http://www.ibm.com/systems/power/support/pm/index.html

Customer Adding Server to Group

- **Overview (Customer)**
  - Once Server Performance Data is sent to IBM, PM for Power Systems will process the data
  - An e-mail will be sent to your contact e-mail address with instructions on how to access the PM for Power Systems WebSite
  - To View the Server Performance Graphs
    - Create am IBM ID (also known as WebID), http://www.ibm.com, click the 'Register' link at the top of the page
    - Access the PM for Power Systems Login page: https://pmeserver.rochester.ibm.com
    - Select 'Customers login with: IBM Web ID' radio button
    - Enter your IBM ID 'Login ID' and 'Password'
    - Click Continue
    - On Create Group dialog, enter any Group Name and Description
    - Click 'Create Group'
    - Click 'Finish' on 'Authorize Users to Group' dialog
    - Note 'Add Server' dialog appears
    - Enter the 'Serial number' and 'Registration key/password' contained in the e-mail
    - Click View Customized Graphs for each server to view the MSG or Interactive Graph (Depending on Entitlement)

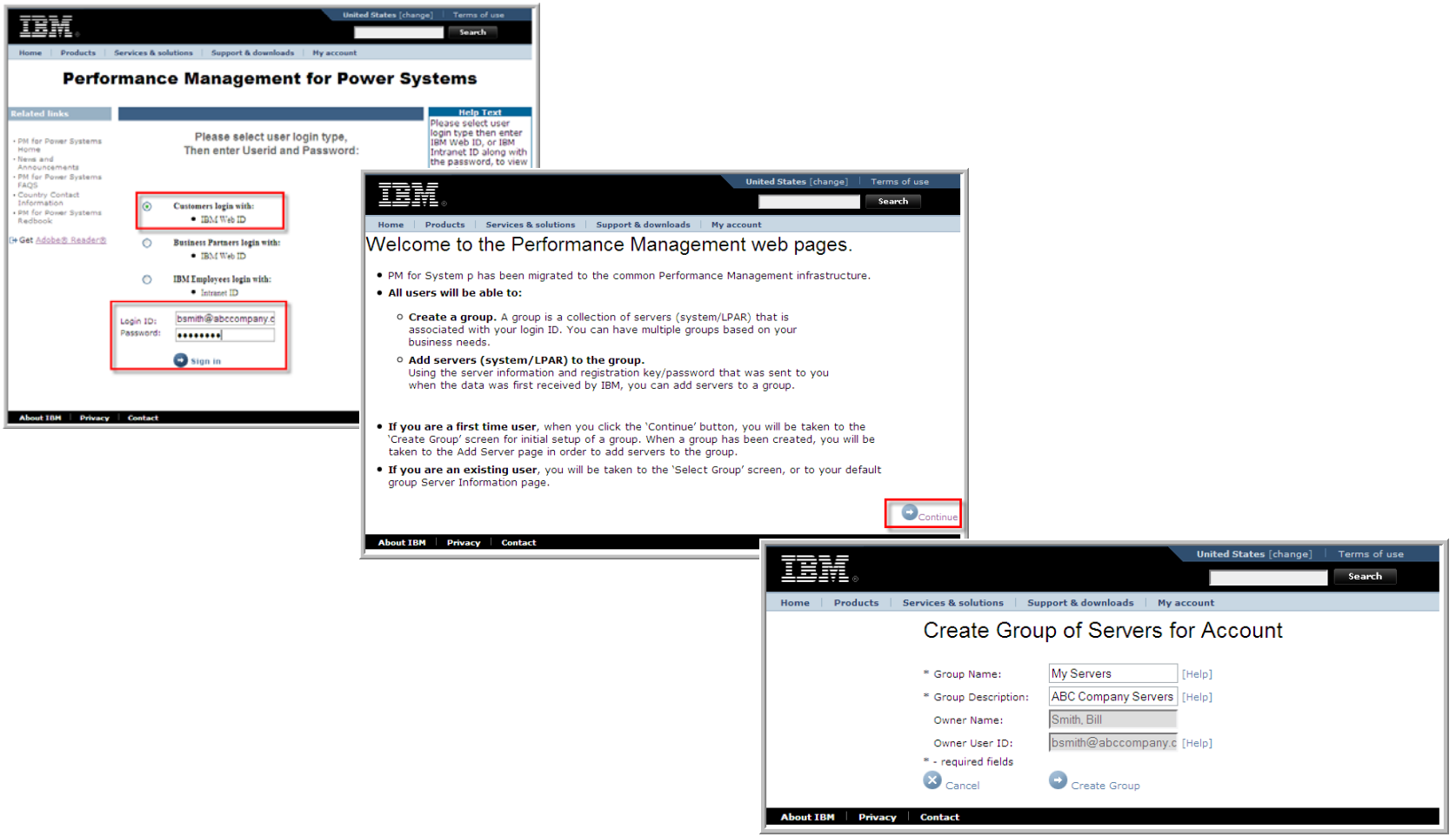
Customer Adding Server to Group

- **Screen Examples**



Customer Adding Server to Group

- **Screen Examples (cont.)**

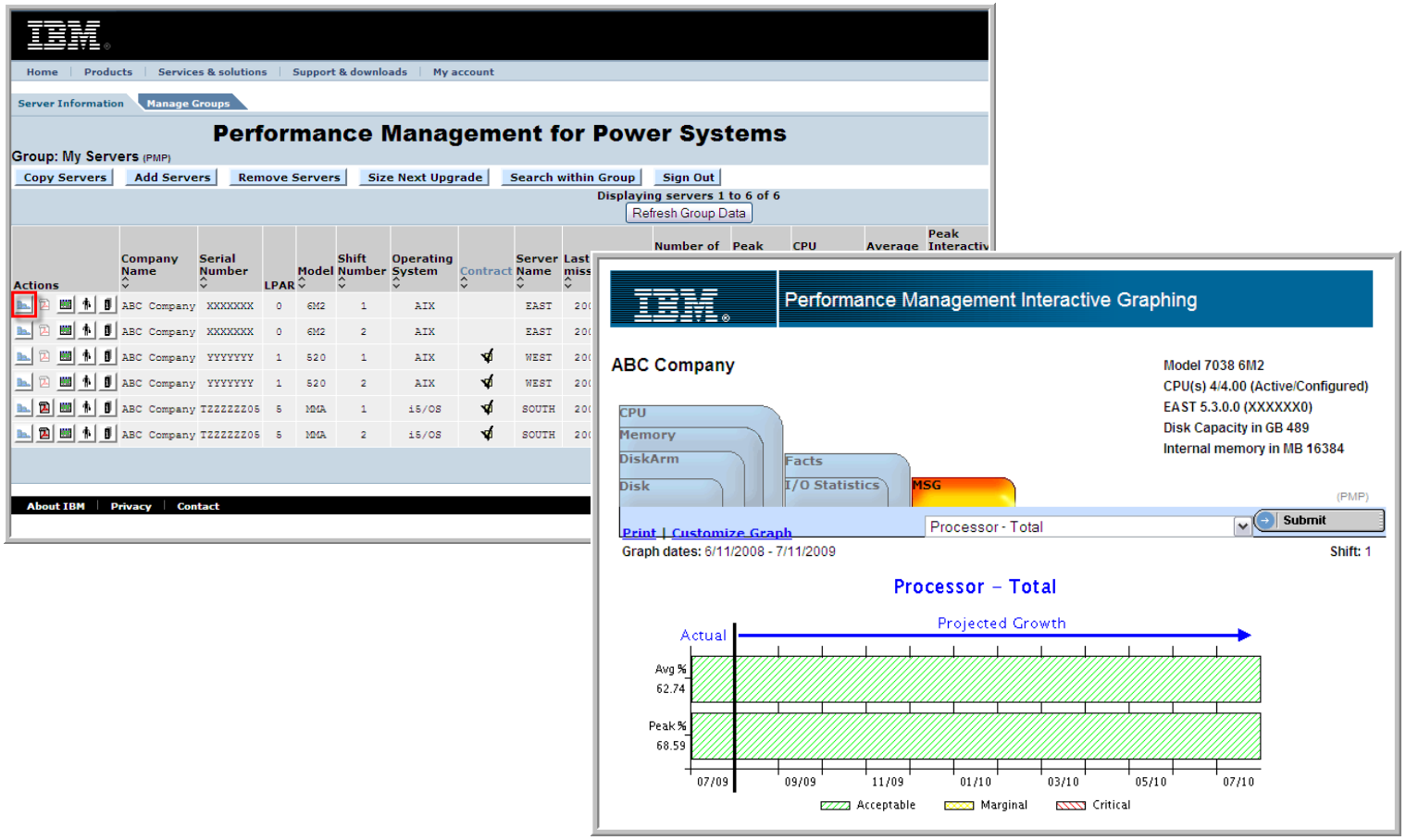


Customer Adding Server to Group

- **Screen Examples (cont.)**

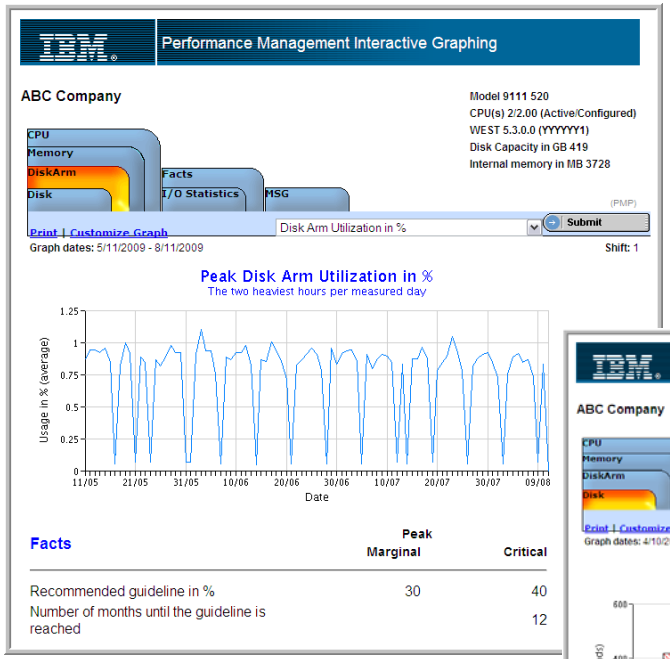
Customer Adding Server to Group

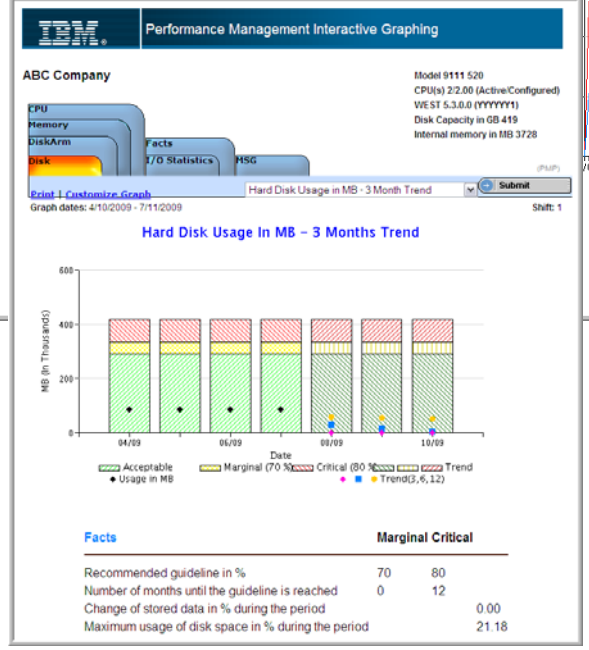
- **Screen Examples (cont.)**

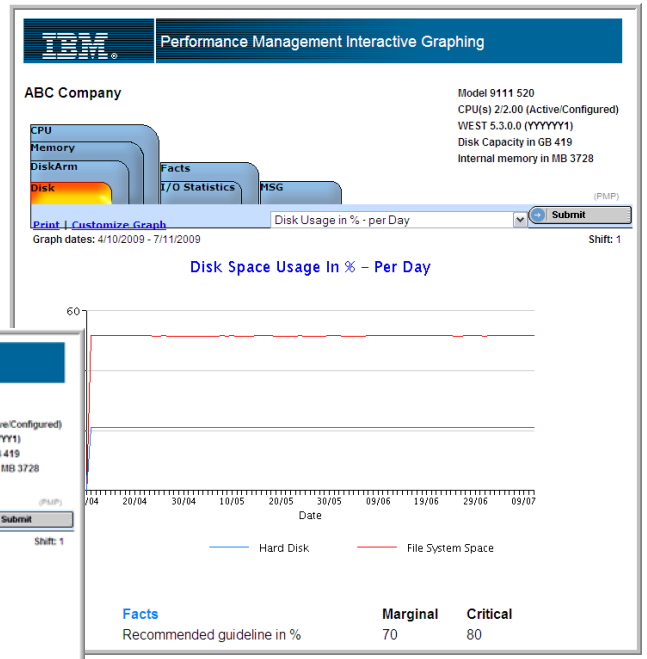


Customer Adding Server to Group

- **Screen Examples (cont.)**







Summary

- **PM for Power Systems Login URL**
  - https://pmeserver.rochester.ibm.com
- **Requirements for Customer Login**
  - Customers require an IBM ID (Web ID)
- **Adding Servers**
  - Customers can use the Registration Key that was e-mailed to them to add the server to a group to view the performance information
- **For more information, please visit the PM for Power Systems web site: http://www.ibm.com/systems/power/support/pm/index.html**

IBM Performance Management
for Power Systems

www.ibm.com/systems/power/support/pm/

PM AIX Collection Agent Advanced Trouble Shooting

PM AIX Collection Agent – Advanced Troubleshooting

- **Overview**
  - Frequently Asked Questions
  - sys.discover tool
  - Confirm stats.send file has been generated
  - Viewing pmcfg.log file for errors
  - Single User Mode (run-level = 5) and no active recording
  - ESA and no ‘Performance Management’ Option
  - Confirm IBM.ServiceRM active on Server and HMC
  - Getting ‘root’ Authority on VIOS
  - Confirm Recording Added to /etc/inittab

PM AIX Collection Agent – FAQ

- **What releases of AIX are supported by PM?**
  - AIX 5.3 TL 11 and AIX TL 4. Subsequent support for 5.3 TL 9, and 10 and AIX 6.1 TL 2, and 3 is planned for 2nd quarter 2010.
- **What else must I do to get PM working beyond having installed the TL that contains the bos.perf.tools fileset ?**
  - From a command line you must type 'SMIT',
  - Select 'Performance and Resource Scheduling'
  - Select 'Configure Topas Options,
  - Select Performance Management.
  - You must answer the Enable Data Transmission option
  - You must update the Customer Information option to ensure it includes email address.
  - (The email address is needed as a 'registration key' is emailed to you once your system or partition transmits PM data the first time. Instructions will be included on how the key is used to allow you to view your entitled performance and capacity graphs on the Internet).
  - Separately, Electronic Service Agent (ESA) installation or HMC configuration for transmission of ESA information is also required as a method to transmit the PM data to IBM.
  - Make sure in either the standalone installation of ESA at the system or partition or at the HMC configuration of ESA that the 'transmit performance data' option is checked to 'yes'.
  - Note: PM uses "topasrec" persistent binary recording to collect the performance data. So, "topasrec" persistent binary recording should always be enabled for PM Service to collect performance data.

PM AIX Collection Agent – FAQ (cont.)

- **What happened to the old pmaix.rte fileset, which was present prior to TL upgrading?**
  - pmaix.rte filset will be automatically de-installed during the upgrading of TL and its functionality will be taken over by bos.perf.tools fileset. Before the upgrade it is advised to send all collected PM data to the IBM
- **What will happen if a customer tries to install pmaix.rte?**
  - An error message will be printed saying that pmaix.rte is superseded by the bos.perf.tools fileset. It will not allow pmaix.rte fileset to be installed.
- **Why am I not able to collect SAN data?**
  - PM service uses "/usr/sbin/datapath" command to collect SAN data. "/usr/sbin/datapath" command is shipped with devices.sdd.61.rte fileset. Please install SDD driver to get the required data.
- **Do I need Electronic Service Agent to transfer PM Data?**
  - Yes. PM Data can be transferred to IBM either by using ESA on your HMC or on your non-HMC controlled AIX hardware. Please configure ESA to send the PM data. Please refer to the IBM Infocenter for the manual steps to transmit the PM Data. Additionally, the ESA website provides information on the features of ESA: http://www.ibm.com/support/electronic
- **Why is Electronic Service Agent not able to transmit the data?**
  - Customer needs to enable the data transmission for ESA to start collecting the PM data. Please follow the instructions on IBM Infocenter to enable the PM data transmission. or visit http://www.ibm.com/support/electronic for more ESA information
- **I am using a HMC and attempting to transmit the PM data using ESA but it is not working.**
  - Check to make sure ServiceRM is running on the HMC
  - For additional setup instructions: http://www.ibm.com/systems/power/support/pm/

PM AIX Collection Agent – FAQ (cont.)

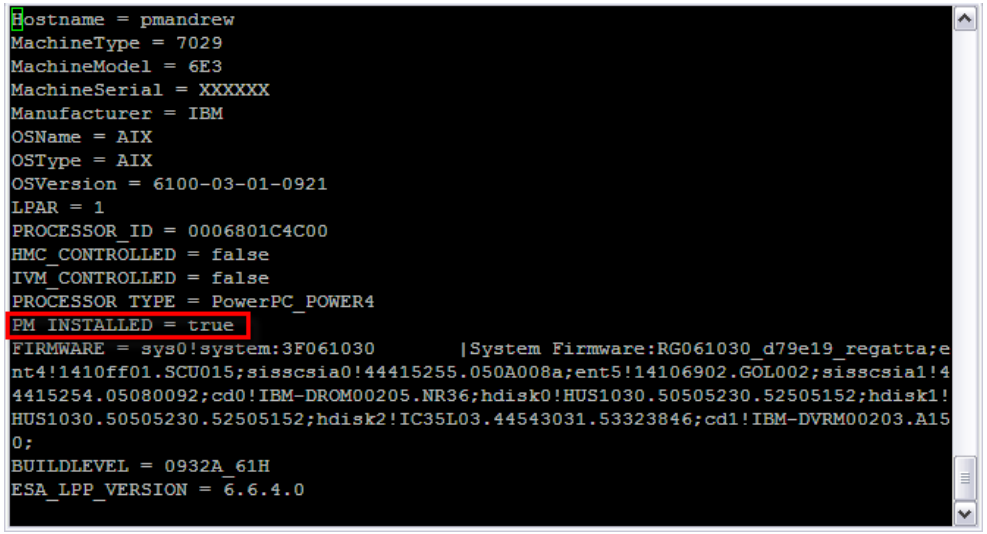
- **Can I be collecting topas data for nmon at the same time as collecting topas data for PM?**
  - Yes
  - The following questions refer to SMIT panel options directly or indirectly. In addition to these questions, you can learn more about the SMIT panel at:
  - http://publib.boulder.ibm.com/infocenter/pseries/v5r3/index.jsp?topic=/com.ibm.aix.prftungd/doc/prftungd/smit_topas_topasout.htm
- **Why can't I 'Enable Data Transmission'? I get an error indicating 'Persistent local binary recording is not running.'**
  - Confirm that you are not in 'single user mode'. If you are, restart your server into normal mode and try the 'Enable Data Transmission' option again. If you are not in single user mode, then see 'Q11 – How do I restart my performance recording?'. After the recording has started, you can then type 'smit topas', select 'Setup Performance Management', select 'Enable Data Transmission'.
- **How do I restart my performance recording?**
  - Confirm that there is not an active recording by typing 'smit topas', selecting 'List active Recordings', and then select 'persistent'. If you see the message 'There is no active recording', then you need to start a recording by canceling (F3) back to the main topas menu. Select 'Start New Recording', select 'Start Persistent local recording', select 'binary', be sure the 'Output Path' has been specified; the default path is typically '/etc/perf/daily'. If the path is not defined, the current directory may be used. You may also have to change 'Overwrite existing recording file' to yes if you get an error.
- **I have stopped my performance recording, why is my server still sending the same performance information to IBM?**
  - You will also have to Disable Data Transmission. To do this, type 'smit topas', select 'Setup Performance Management', select 'Disable Data Transmission'. The performance information will not be sent to IBM from ESA or HMC.

PM AIX Collection Agent – FAQ (cont.)

- **How many days of performance data are stored on my server?**
  - The default of '14' days are stored on your server. It is recommended that you keep a minimum of 7 days. To change this setting, type 'smit topas', select 'Setup Performance Management', select 'Change/Show Data Retention Period' and change the 'Retention Period (days)' to the desired number of days.
- **How do I retransmit all of my available performance data to IBM?**
  - To retransmit all of your available performance data to IBM, type 'smit topas', select 'Setup Performance Management', select 'Retransmit Recorded Data', enter zero '0' for the 'Enter the Date [YYYYMMDD]' and press ENTER. Follow the instructions on how to use ESA or HMC to send the performance file to IBM.
- **Why can't I send performance data for the current date?**
  - You can only generate a performance file for the previous day's performance recording.
- **How do I update my customer information including e-mail address?**
  - Type 'smit topas', select 'Setup Performance Management', select 'Change/Show Customer Information', make the appropriate changes. Your changes will be automatically sent the next time the performance information is transmitted to IBM.

sys.discover tool

- **Login as root**
- **/usr/esa/bin/sys.discover**
- **Note the following settings**
  - MachineType & MachineSerial
  - HMC_CONTROLLED = Indicates if the server is controlled by an HMC or is standalone ESA
  - PM_INSTALLED = Indicates if 'Enable Data Transmission' has been selected
  - BUILDLEVEL = indicates the build level and useful to determine if server has been installed with proper version



sys.discover tool (cont.)

- **If PM_INSTALLED = false, sending of performance data to IBM has been disabled**
- **To re-enable:**
  - smit topas
  - Select ‘List active Recordings’ and confirm there is an active recording, start one if needed
  - Select ‘Setup Performance Management’
  - Select ‘Change/Show Customer Information’ and confirm all required fields are filled out
  - F3 (or ESC + 3) to cancel back to Menu
  - Select ‘Enable Data Transmission’
  - Note success message. Performance file is generated and will be sent to IBM

Confirm stats.send file has been generated

- **Looking for stats.send file**
  - Login as root
  - cd /var/perf/pm/daily/$HOSTNAME
  - ls -l
  - Note that stats.send file must exist and have the following file permissions: '-rw-r--r--'
  - If the file doesn't exist, see 'Viewing pmcfg.log file for errors'

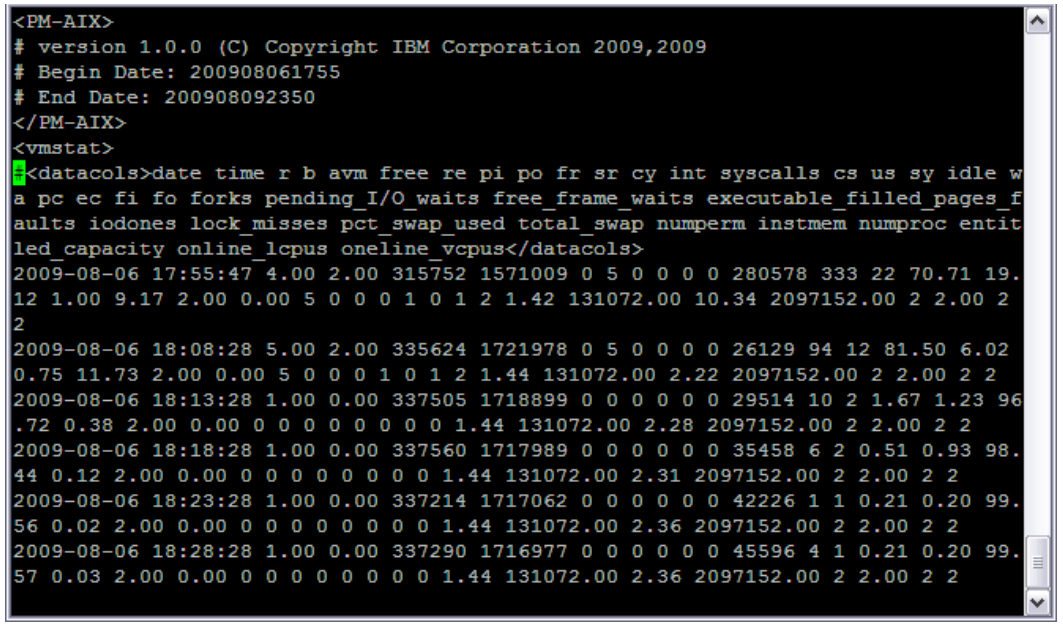
```
(0) root @ pmandrew: : /
# cd /var/perf/pm/daily/$HOSTNAME

(0) root @ pmandrew: : /var/perf/pm/daily/pmandrew
# ls -l
total 2216
-rw-------    1 root     system         5864 Aug 06 23:52 process.2009.08.06.Thu
-rw-------    1 root     system        19806 Aug 07 23:53 process.2009.08.07.Fri
-rw-------    1 root     system        22560 Aug 08 23:53 process.2009.08.08.Sat
-rw-------    1 root     system        22560 Aug 09 23:54 process.2009.08.09.Sun
-rw-------    1 root     system        17155 Aug 10 19:37 process.2009.08.10.Mon
-rw-------    1 root     system        12979 Aug 11 23:46 process.2009.08.11.Tue
-rw-------    1 root     system         8260 Aug 12 08:31 process.2009.08.12.Wed
-rw-------    1 root     system        38818 Aug 06 23:55 stats.2009.08.06.Thu
-rw-------    1 root     system       136478 Aug 07 23:55 stats.2009.08.07.Fri
-rw-------    1 root     system       139399 Aug 08 23:55 stats.2009.08.08.Sat
-rw-------    1 root     system       139010 Aug 09 23:55 stats.2009.08.09.Sun
-rw-------    1 root     system        88981 Aug 10 23:55 stats.2009.08.10.Mon
-rw-r--r--    1 root     system       453302 Aug 10 17:23 stats.send

(0) root @ pmandrew: : /var/perf/pm/daily/pmandrew
#
```

Confirm stats.send file has been generated (cont.)

- **Looking for stats.send file (cont.)**
  - cd /var/perf/pm/daily/$HOSTNAME
  - vi stats.send
  - Scroll though file and note the following sections
    - <vmstat>
    - <iostat>
    - <netstat>
    - <process>
    - <envstat>
    - <cuinfo>

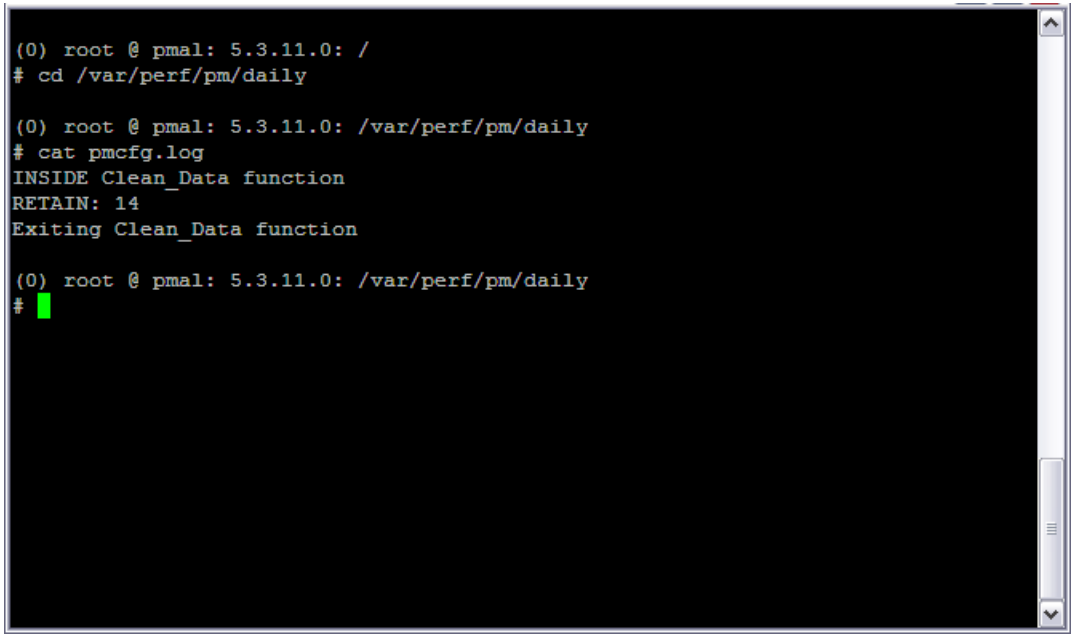


  - Don't worry about the content of the file, make sure there is at least some kind of information
  - Use ':q!' to quit vi editor

Be very careful to not change the contents of the file. This could cause bad data to be sent to IBM.

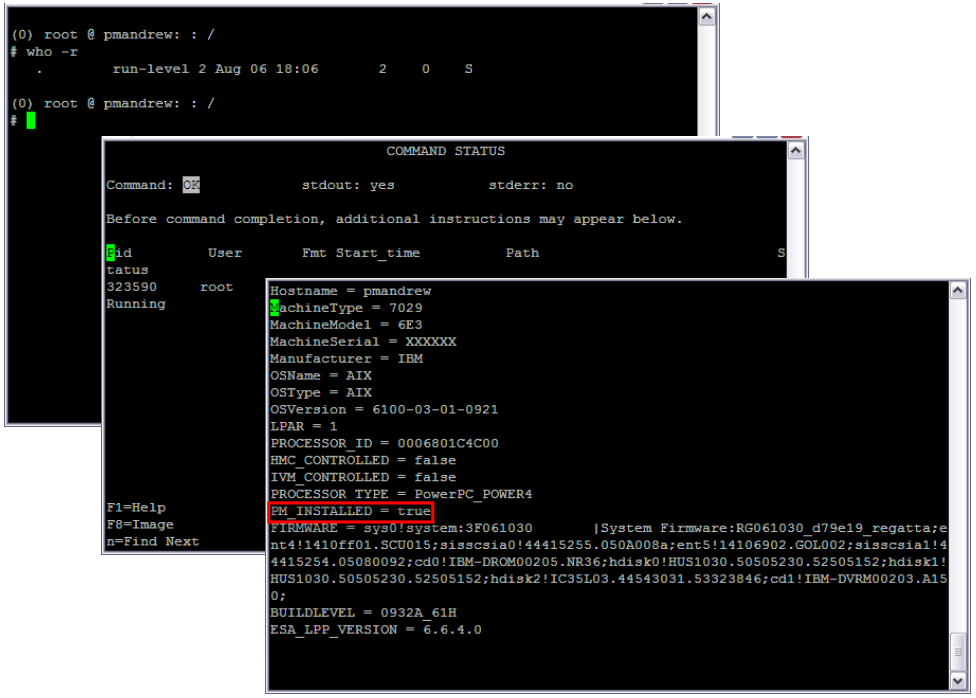
Viewing pmcfg.log file for errors

- **Viewing pmcfg.log file**
  - If there are some problem generating the stats.send file, refer to the pmcfg.log file
  - Login as root
  - cd /var/perf/pm/daily
  - cat pmcfg.log
  - Note any errors



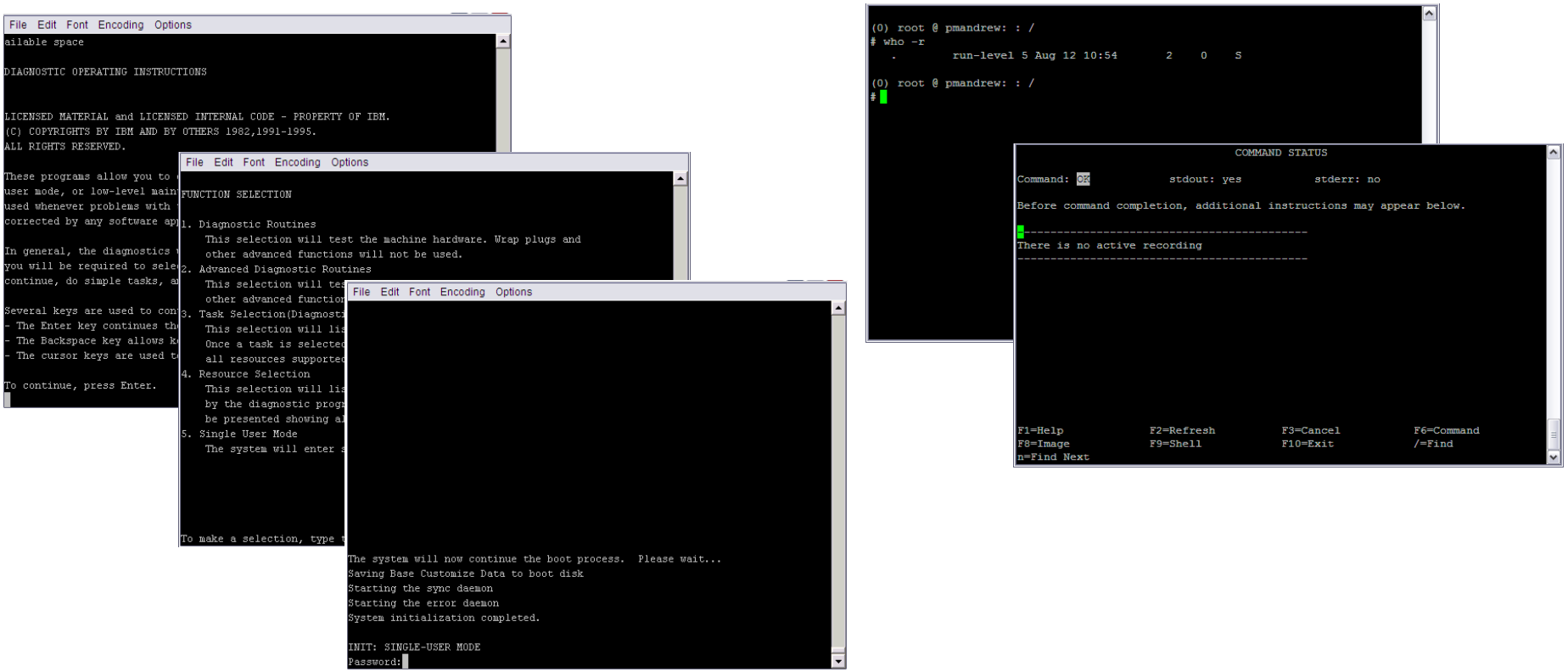
Single User Mode and no active recording

- **Single User Mode and no active recording**
  - When AIX is booted to single user or maintenance mode, there will not be an active recording
  - Note that PM_INSTALLED = true
  - To determine the run-level, use the ‘who -r’ command
- **Example of default run-level of 2**



Single User Mode and no active recording (cont.)

- **Single User Mode and no active recording (cont.)**
  - Note that in run-level 5, there is not an active recording

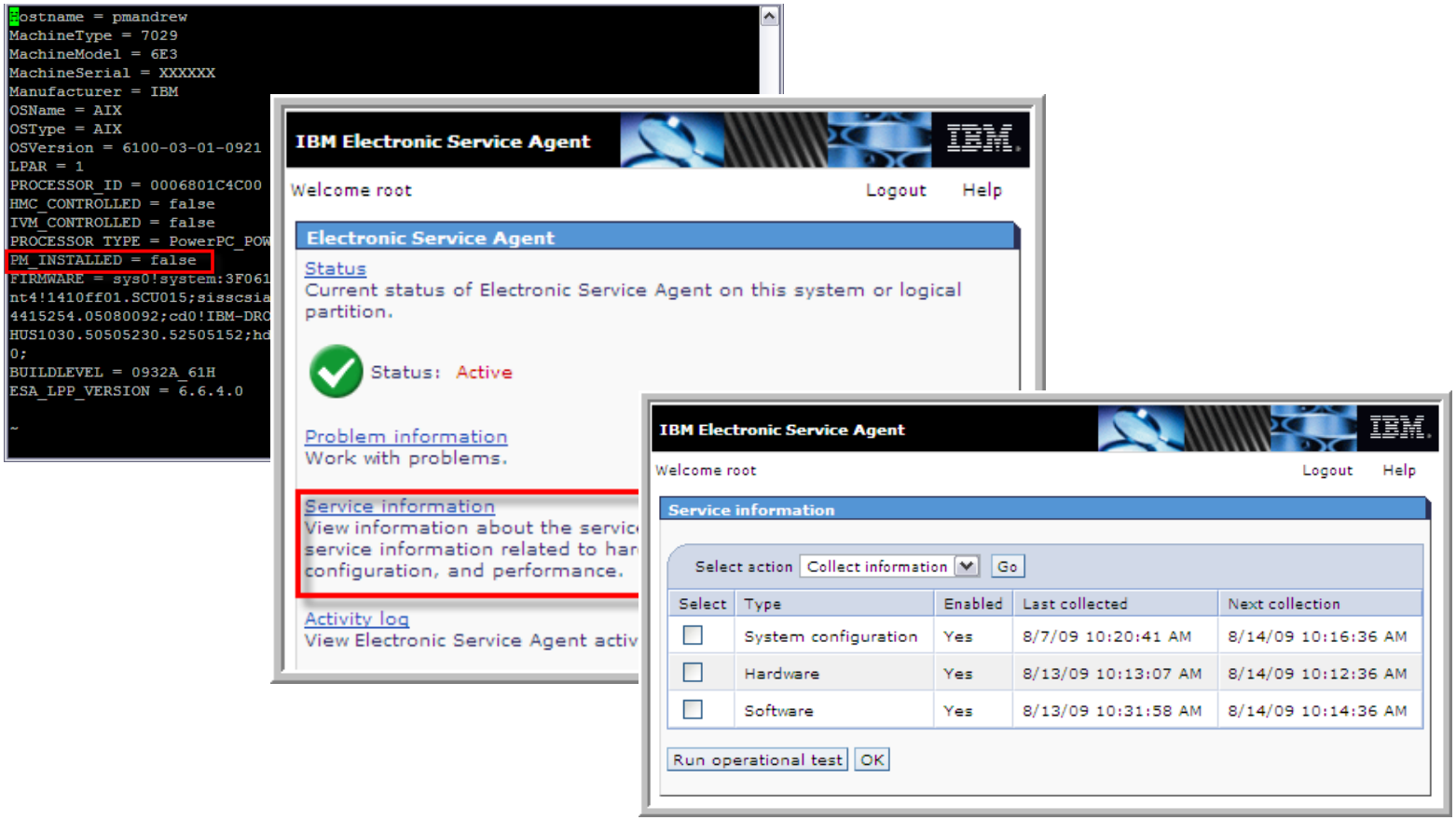


ESA and no ‘Performance Management’ Option

- **If you have selected ‘Disable Data Transmission’**
  - The ‘Performance Management’ will be removed from the ESA screens

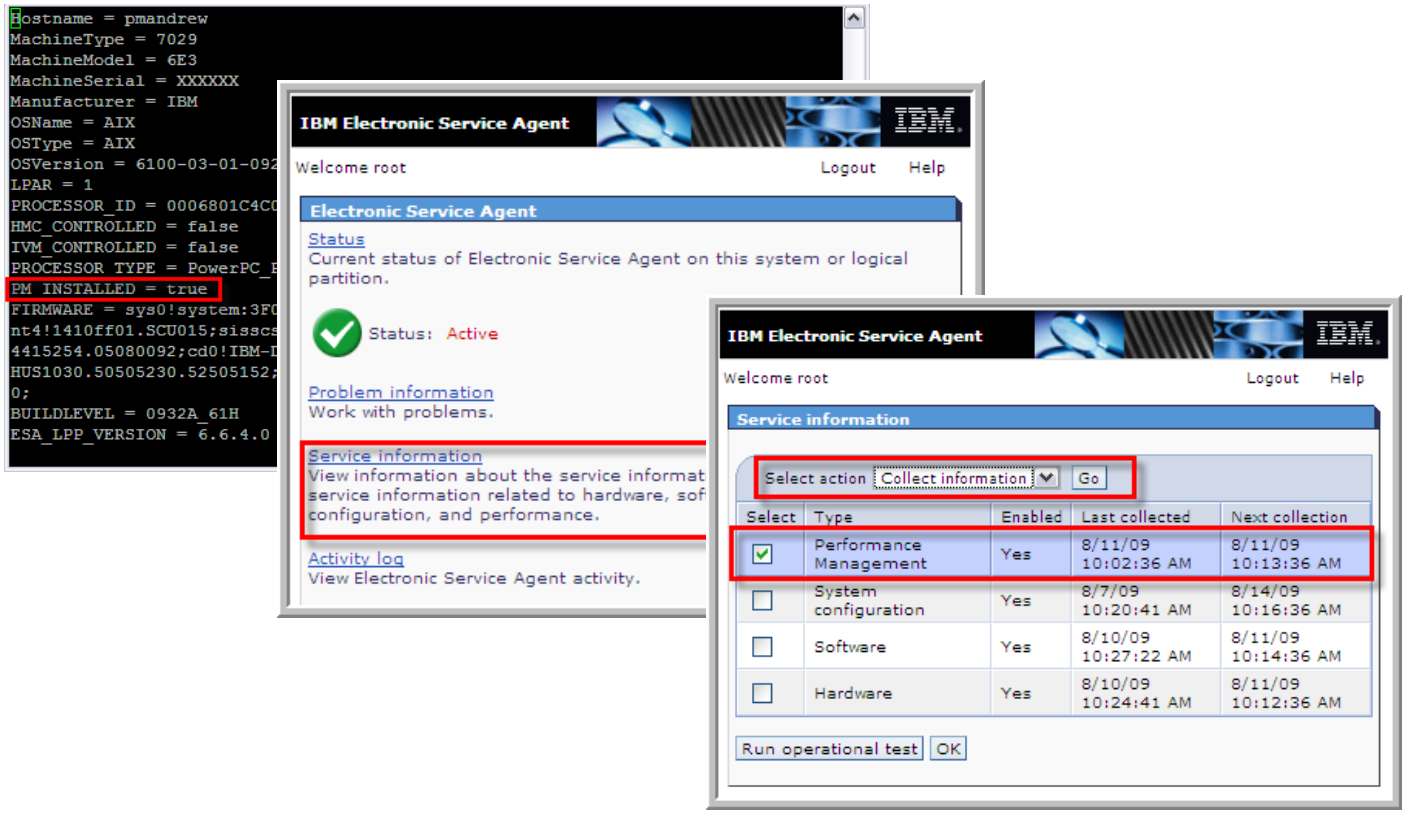
ESA and no ‘Performance Management’ Option (cont.)

- **PM_INSTALLED = false and ESA does not have ‘Performance Management’ Option**



ESA and no ‘Performance Management’ Option (cont.)

- **Example screens showing PM_INSTALLED = true and ESA has ‘Performance Management’ option**



Confirm IBM.ServiceRM active on Server and HMC

- **Overiew**
  - The HMC needs to communicate with IBM.ServiceRM on each server/partition. Without it running, the HMC will not be able to pick up the performance data file
  - Ensure that the IBM.ServiceRM is active on both the HMC and server/partition
- **Additional information**
  - Unless there is a microcode problem IBM.ServiceRM should always be running
  - Crashing three times within a short time span will stop the service
- **To check the status on the server/partition**
  - Login as root
  - lssrc -g rsct; lssrc -g rsct_rm
- **To restart the service on the server/partition**
  - Login as root
  - /usr/sbin/rsct/bin/rmcctrl -z
  - /usr/sbin/rsct/bin/rmcctrl -A
  - lsrsrc IBM.Sensor
- **Checking status or restarting IBM.ServiceRM on HMC server**
  - Generally restarting HMC server will correct problem
  - Contact IBM Support if you continue to experience a problem

Confirm IBM.ServiceRM active on Server and HMC (cont.)

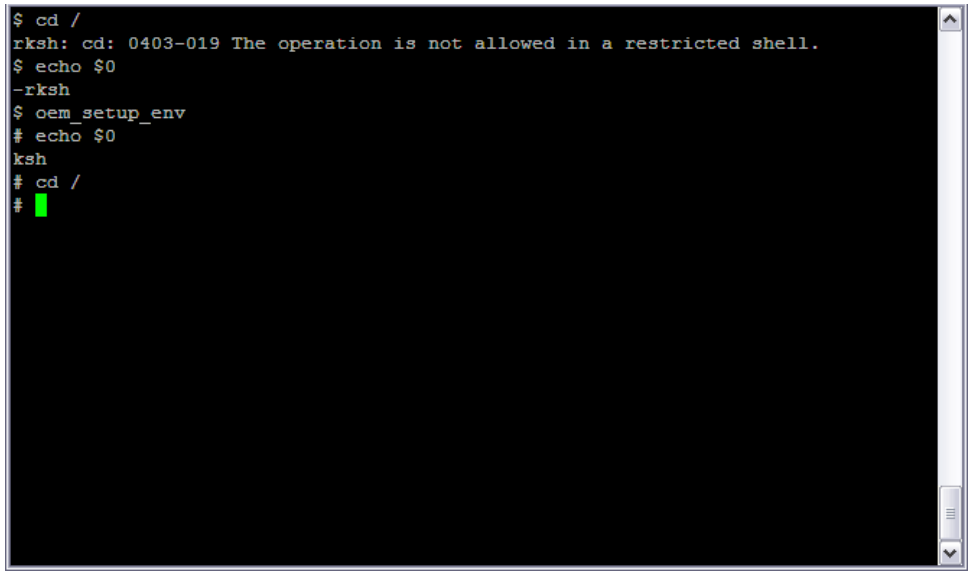
- **Example checking on IBM.ServiceRM status on server/partition**
  - Confirm that IBM.ServiceRM has an ‘active’ status

```
(0) root @ pmking:127.0.0.1: /
# lssrc -g rsct; lssrc -g rsct_rm
Subsystem         Group            PID          Status
 ctrmc            rsct             278686       active
 ctcas            rsct                          inoperative
Subsystem         Group            PID          Status
 IBM.CSMAgentRM   rsct_rm          315552       active
 IBM.ServiceRM    rsct_rm          299168       active
 IBM.AuditRM      rsct_rm                       inoperative
 IBM.ERRM         rsct_rm                       inoperative
 IBM.LPRM         rsct_rm                       inoperative
 IBM.HostRM       rsct_rm                       inoperative
 IBM.DRM          rsct_rm                       inoperative

(0) root @ pmking:127.0.0.1: /
#
```

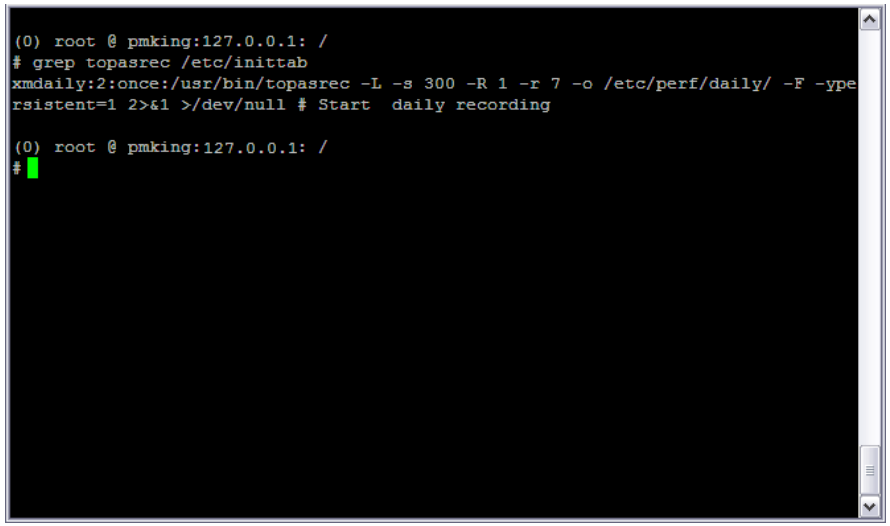
Getting ‘root’ Authority on VIOS

- **Overiew**
  - Normally when logging into VIOS, the ‘padmin’ user is used
  - This user has limited authority (restricted korn shell) and will be hard to debug problems. Use echo $0 to determine the current shell.
  - Use the ‘oem_setup_env’ command to switch to a ‘root’ authority user (full korn shell)
- **Important Information**
  - It is recommended that you don’t use smit to configure PM AIX Collection Agent when in the special ‘root’ authority mode
  - Type ‘exit’ to return back to the ‘padmin’ login and use ‘cfgassist’



Confirm Recording Added to /etc/inittab

- **To confirm that the recording has been added**
  - Login as root
  - grep topasrec /etc/inittab
  - Note that the job has been added
- **Additional Information**
  - The ‘Start New Recording’ should add the entry for you
  - Without this entry, the recording will not automatically start when you restart your server



End of Presentation