Avaya Diagnostic Toolkit (ADT) For Modular Messaging MAS User's Guide

Version 1.1

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BEFORE YOU BEGIN

Additional Resources Available

Avaya Support Web

Avaya provides excellent information about support services on our worldwide web site:

http://support.avaya.com

Avaya University

Avaya University provides excellent training courses on a variety of topics. For the latest course descriptions and schedules contact Avaya University at:

http://www.avaya-learning.com/

http://books24x7.com

INTRODUCTION

Target Audience

This User's Guide is designed for support engineers, customers, and others interested in using the ADT to help diagnose problems with Modular Messaging MAS systems.

Prerequisites

The user should have a basic understanding of PC hardware, Microsoft Windows Operating System, IP Networking and the Avaya Modular Messaging Application in order to use the ADT effectively

Introduction

The Avaya Diagnostic Toolkit (ADT) is:

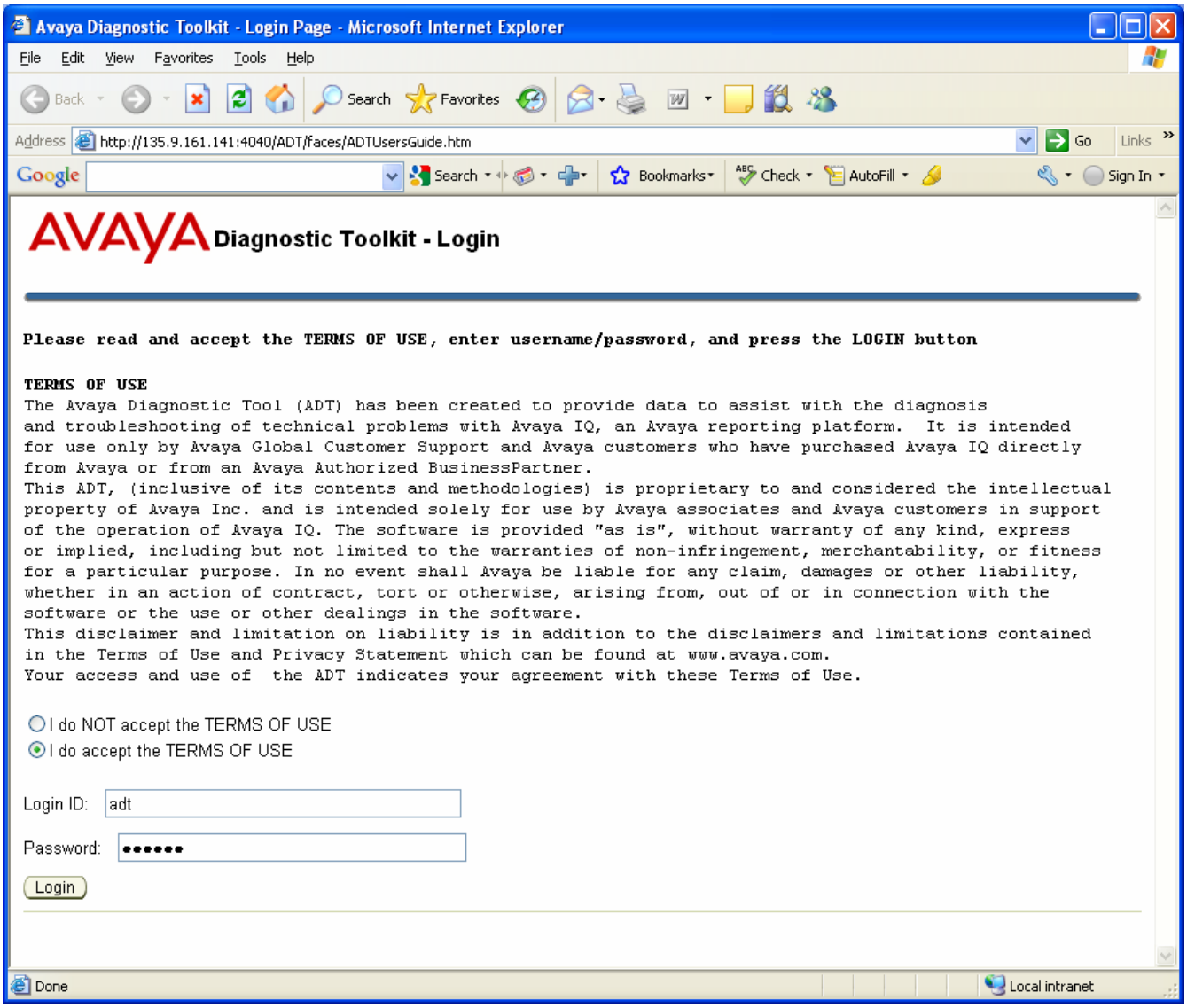
- A set of tools that run on the Modular Messaging MAS product hosts within the customer's network and will be accessible via a GUI served on a thin client web browser such as Internet Explorer
- Run by Avaya Support Engineers and/or the Customer
- Can be expanded to support other existing or new Avaya products in the future
- Allows the user to display current configuration, monitor system status information, and diagnose problems across distributed product hosts
- Portal for integrating other Avaya and 3rd Party diagnostic tools
- Interfaces with Avaya Support sites
- Links to other useful Avaya and non-Avaya public sites

To access the ADT:

- Open an internet browser window (Microsoft Internet Explorer or Mozilla Firefox) from any system that has network access to the Modular Messaging MAS host running the ADT

- Type in the url of the ADT in the internet browser window's address field and hit the <enter> key or click on the "Go" button. The url of the ADT is: http://<FQDN or IP Address of the Modular Messaging MAS Host:4040/ADT/faces/Login.jsp (for example: http://135.122.29.121:4040/ADT/faces/Login.jsp)

The internet browser should then bring up a window similar to the following image:



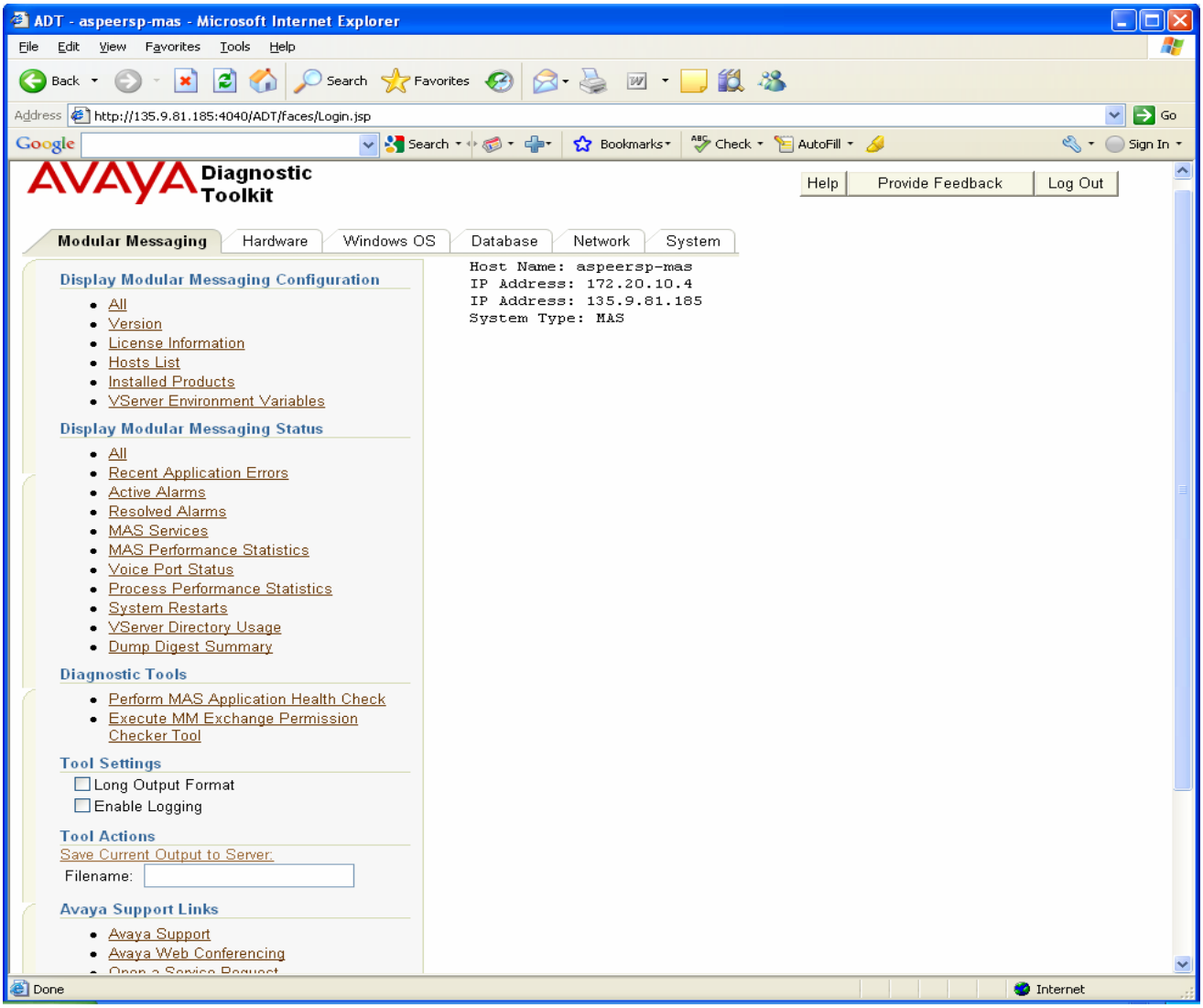
If this image does not appear, it is due to one of the following circumstances:

- The ADT is not installed or is not started. Refer to Chapter 8 for more details.
- There is not network access between the system the internet browser is running on and the Modular Messaging host. Address the network problem and try again.

If this image does appear, read and agree to the "TERMS OF USE", enter the Login ID and password, and click on the "Login" button.

The default Login ID is "adt" and the default Password is "avaya1". Avaya strongly suggests changing the default password. Refer to section 6.2.2 for instructions on how to change a ADT user password.

If the login credentials are validated, the ADT main screen, as shown in the following image, should be displayed within the internet browser window.



The horizontal tab bar across the upper left portion of the page allow you to navigate to the tool category you are interested in (Modular Messaging, Hardware, Operating System, Database, Network, System). To change to a different category, just click on the desired category tab. The vertical menu along the left side of the tool displays the tools that are currently available for the tool category tab chosen. These vertical menus are generally organized into the following categories:

- Display Configuration
- Display Status
- Perform Health Check

- Diagnostic Tools
- Tool settings
- Tool Actions
- Avaya Links
- External Links

Above the horizontal tab bar are the following three buttons:

- Help – Clicking this button will trigger a new browser window to be created containing this User's Guide
- Provide Feedback – Clicking this button will trigger a email composition window to be created with the address set up to be sent back to the ADT for MM support team
- Log Out – Clicking this button will log the user out of the ADT session. Note that the user will automatically be logged out after 90 minutes.

Use Cases for using the ADT to access customer MAS servers

1 - Avaya Engineer uses the browser on a PC within the Avaya Network

On a PC logged into the Avaya Network, perform the following steps:

1. Make a connect2 or SAL connection to the customer's network
2. Start up a Internet Explorer Browser on the local PC
3. Enter the URL of the ADT web server on the MAS server as discussed in the introduction:

http://<FQDN or IP Address of the Modular Messaging MAS Host:4040/ADT/faces/Login.jsp (for example: http://135.122.29.121:4040/ADT/faces/Login.jsp). At this point the ADT login page should come up. You may need to configure your browser to not use proxy server for addresses starting with 80.*

2 - Avaya Engineer uses the browser on the MAS server from a PC within the Avaya Network

On a PC logged into the Avaya Network, perform the following steps:

1. Make a connect2 or SAL connection to the customer's network

2. Make a windows remote desktop connection to the MAS server using its IP address

3. Start the ADT using the MAS Windows Internet Explorer browser by either clicking on the ADT desktop shortcut link or by starting the MAS Windows Internet Explorer browser manually and entering the URL of the ADT web server as described in step 3 of use case 1.

3 - Customer or Avaya Engineer uses the browser from a PC within the customer's network

On a PC within the customer's network that has IP access to the MAS server, perform the following steps:

1. Start up a Internet Explorer Browser on the local PC

2. Enter the URL of the ADT web server on the MAS server as described in step 3 of use case 1

4 - Customer or Avaya Engineer uses the browser directly from the MAS console

Once logged into the MAS console, perform the following steps:

1. Start the ADT using the MAS Windows Internet Explorer browser by either clicking on the ADT desktop shortcut link or by starting the MAS Windows Internet Explorer browser manually and entering the URL of the ADT web server as described in step 3 of use case 1.

CHAPTER 1 – MODULAR MESSAGING MAS APPLICATION DIAGNOSTIC TOOLS

1.1 Chapter Goal

The goal of this chapter is to learn how to use the ADT to view current Modular Messaging MAS application configuration and status information and to check the system for application problems.

1.2 Modular Messaging MAS Application tools

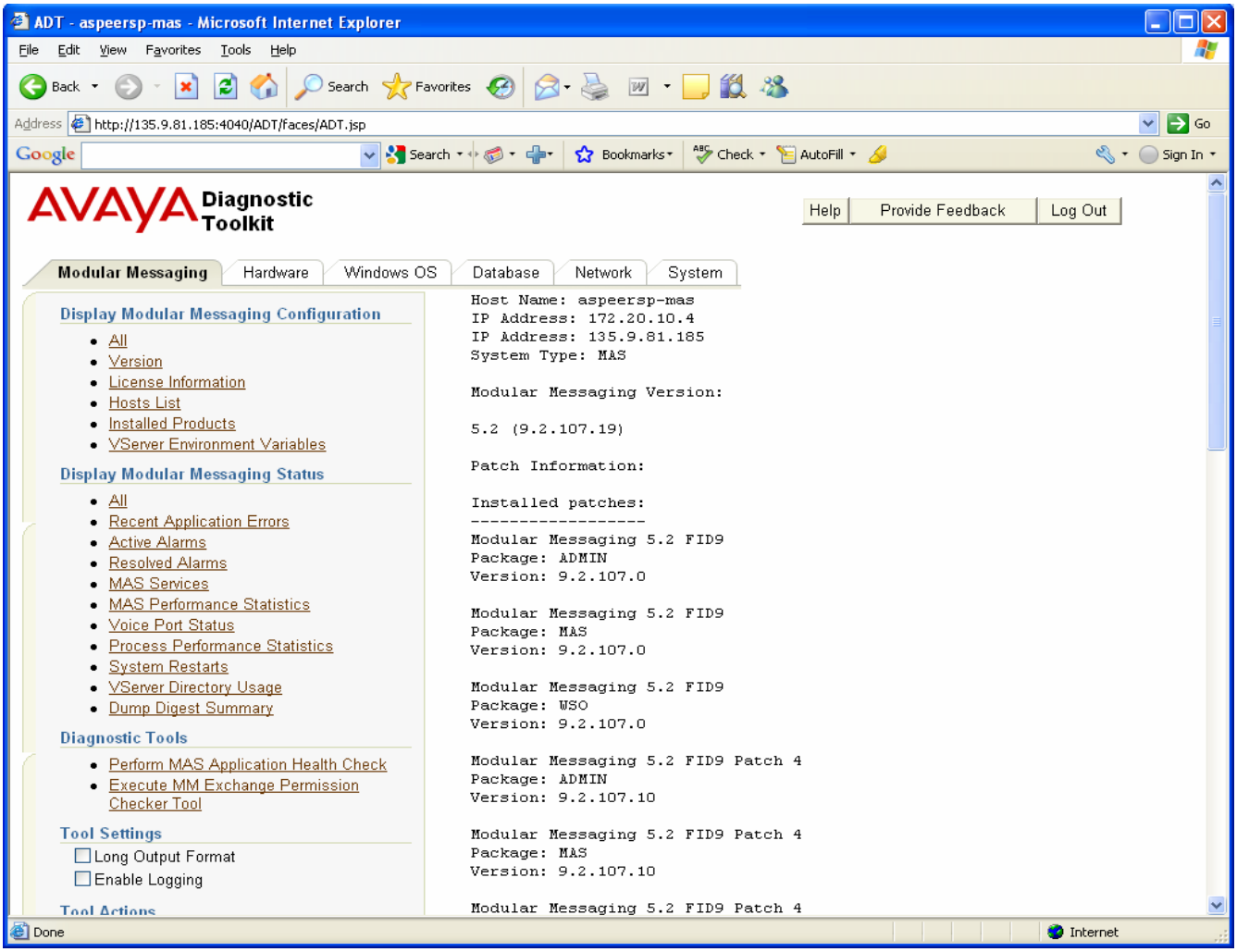
This section discusses the various Modular Messaging MAS application tools provided by the ADT.

1.2.1 Display Modular Messaging Configuration

This section discusses the ADT tools available to view the Modular Messaging MAS Application configuration.

1.2.1.1 Version

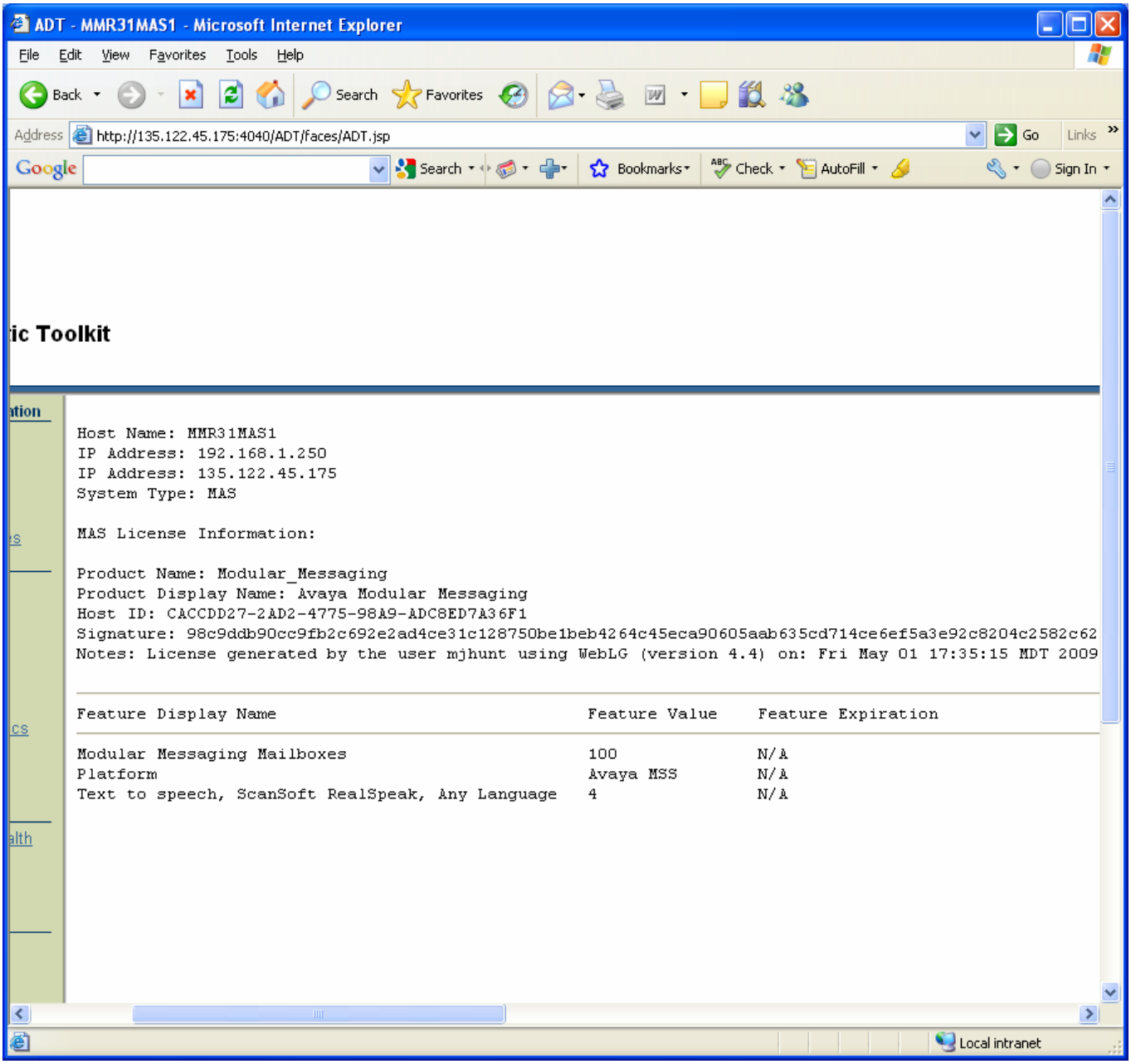
The MAS verion an patch information can be displayed using the "Version" tool. Example output:



The raw MAS version and build number (7.1.716.1in the example above) is retrieved from the version attribute of the “Program Files\Avaya Modular Messaging\Common\ocuabout.dll file. The MAS release number (3.1 in the example above) is done by translating the raw MAS version and build number within the ADT. The patch information is retreived using MMSnap and specifying “Patches” option from the GUI or “/e PTCH” from the command line.

1.2.1.2 License Information

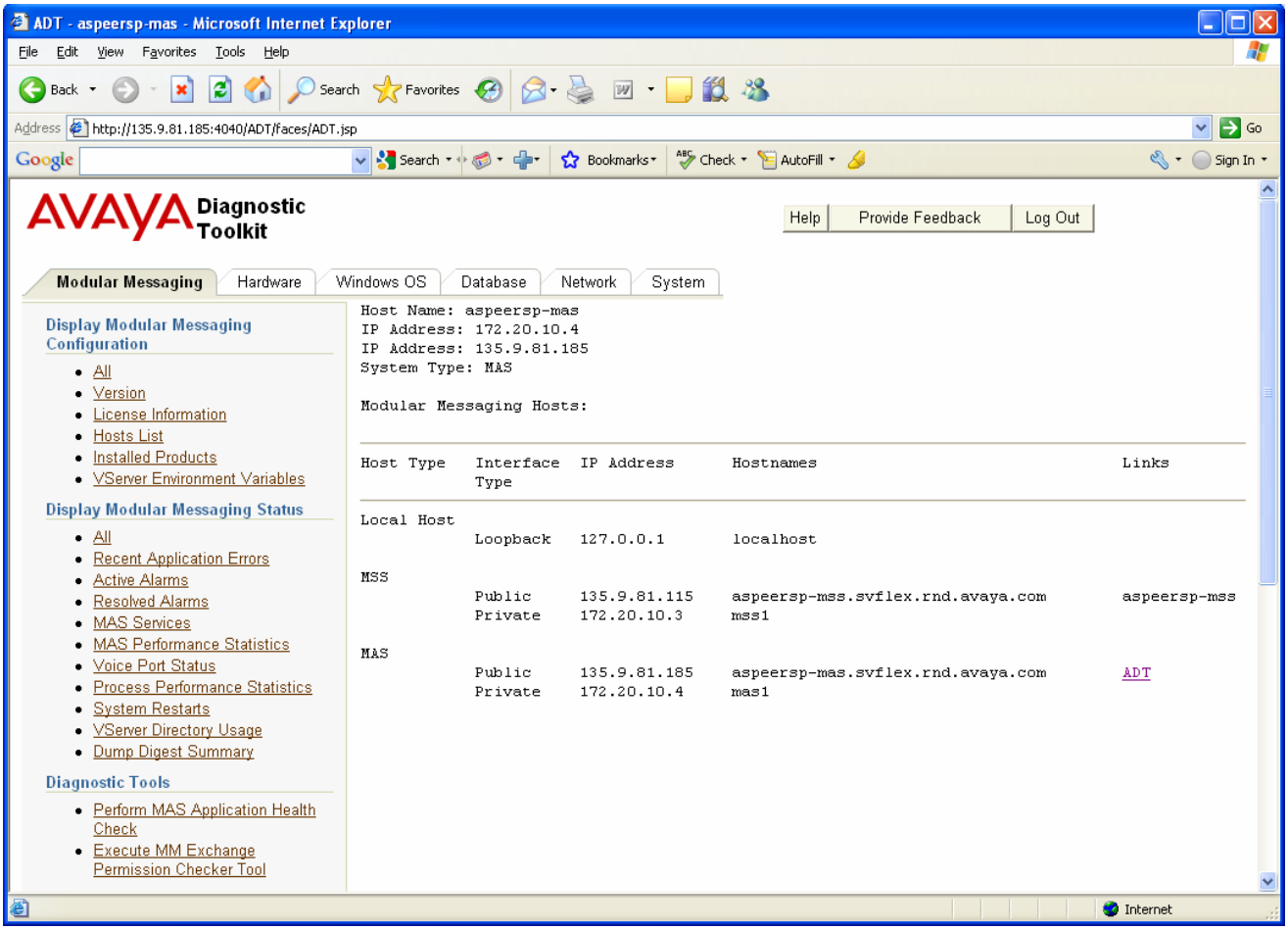
The “License Information” tool can be used to display detailed license information on the MAS including the list of currently licensed features and the date that the licensed featrures expire. Example output:



The MM MAS license information is retreived using MMSnap and specifying “License File” option from the GUI or “/e LICF” from the command line. Note the ADT license tool is not available for MAS release 5.2 and greater because WebLM is used for license validation.

1.2.1.3 Hosts List

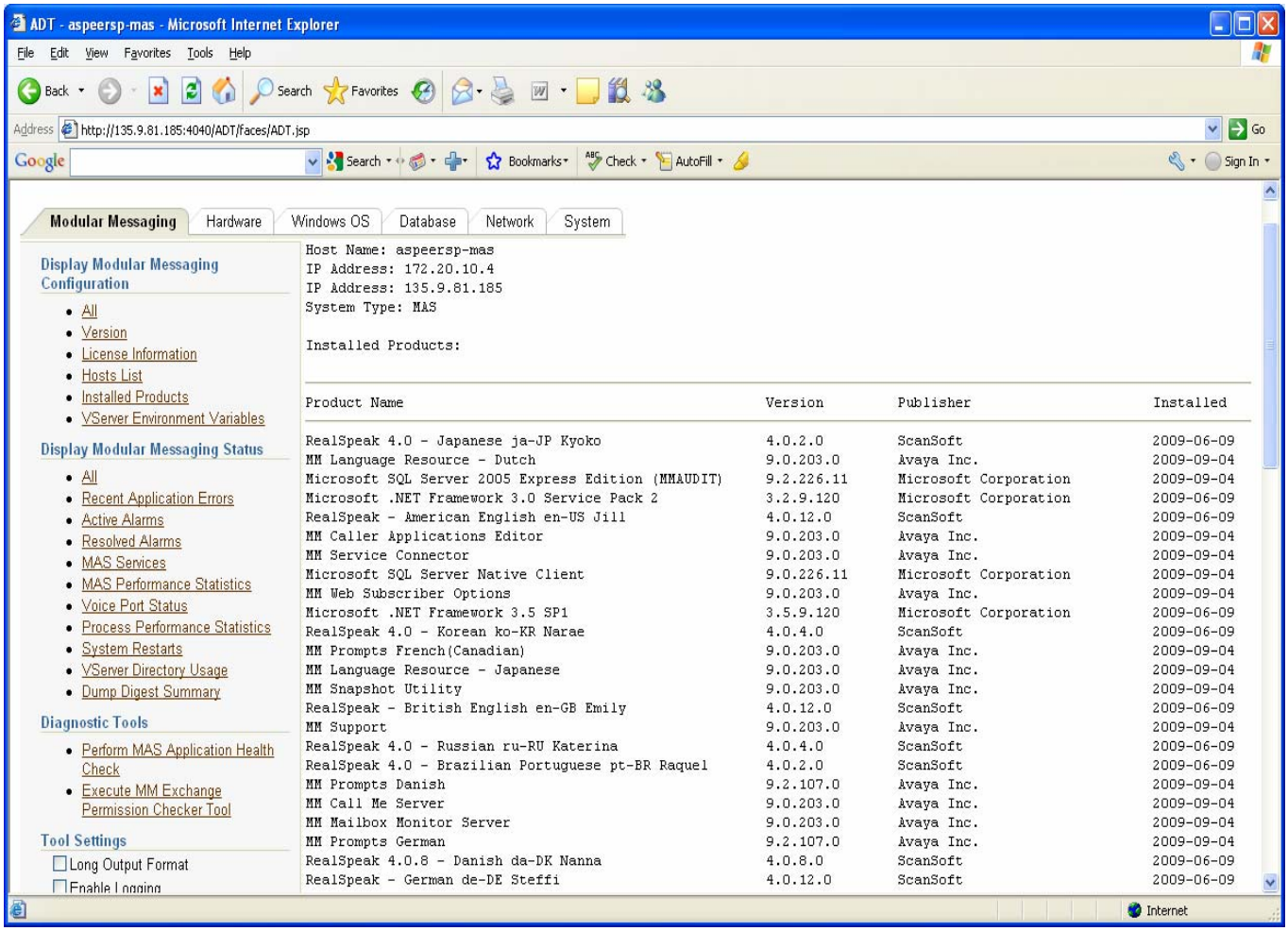
The list of configured hosts can be viewed using the “Hosts List” tool. Each listed MAS host will have a link so that the ADT can be easily launched from this screen. The following image shows some example output for this tool.



The hosts list is obtained by parsing the file located off the window installation directory called "\system32\drivers\etc\hosts". The file is parsed according to the general rules for MAS hosts files. For a un-parsed view of the hosts file, use the “Hosts File” tool off of the “Network” tab.

1.2.1.4 Installed Products

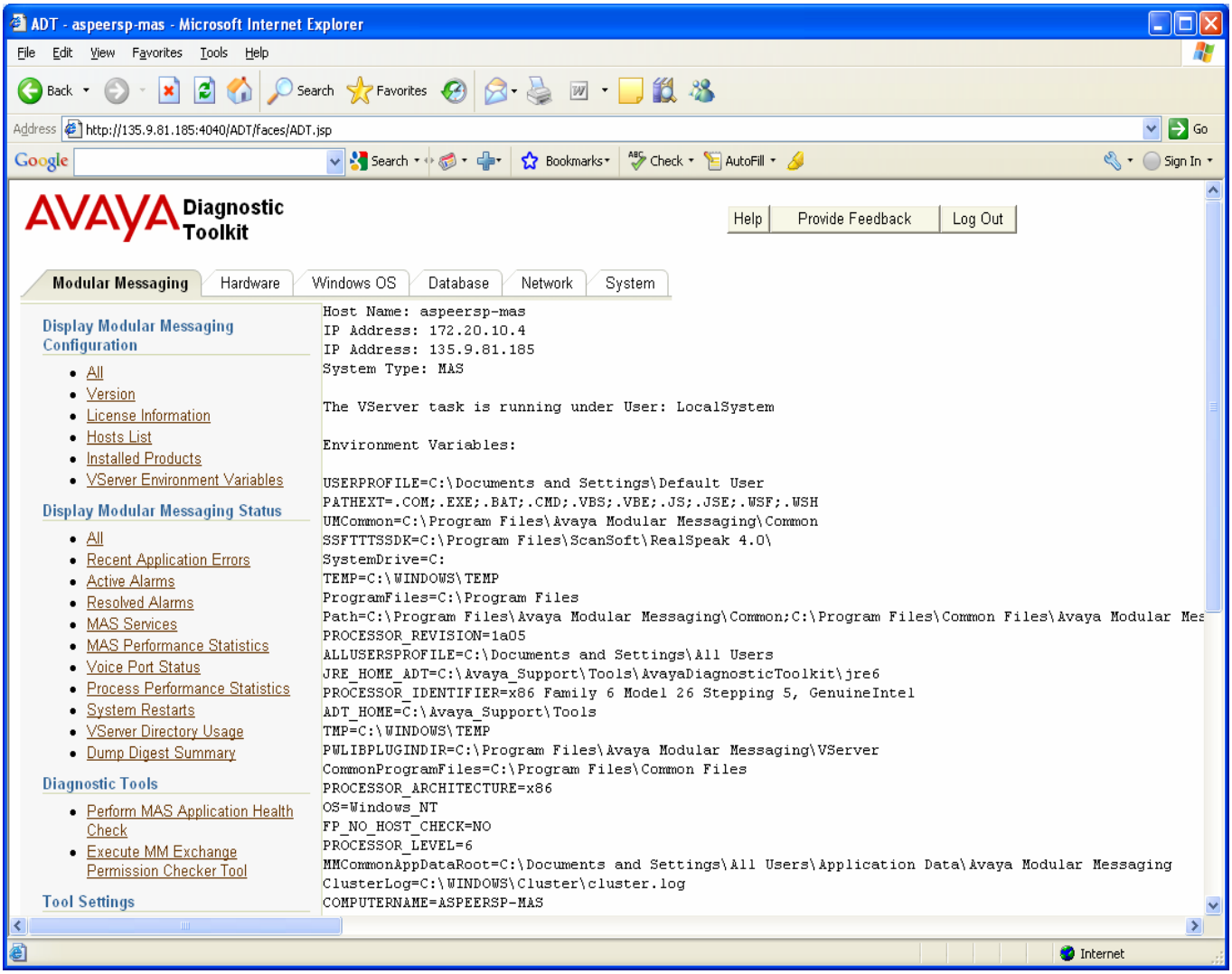
The “Installed Products” tool can be used to display the list of all products (modular messaging and otherwise) installed on the MAS system. The product name, version, publisher, and date installed is displayed for each product in the list. The following image shows some example output for this tool.



The installed products list is retreived using MMSnap and specifying “Installed packages” option from the GUI or “/e INSP” from the command line.

1.2.1.5 VServer Environment Variables

The “VServer Environment Variable” tool can be used to display the list of enviroment variables for the user running the VServer task. The following image shows some example output for this tool.



The VServer username is retrieved using the “wmic service” command and parsing the start name of the VServer Service. If the VServer was started by the “LocalSystem” user, the environment for the ADT is returned since it also runs as the system user. If the VServer was not started by the “LocalSystem” user, the environment is retrieved using the “wmic environment” command.

1.2.1.6 All

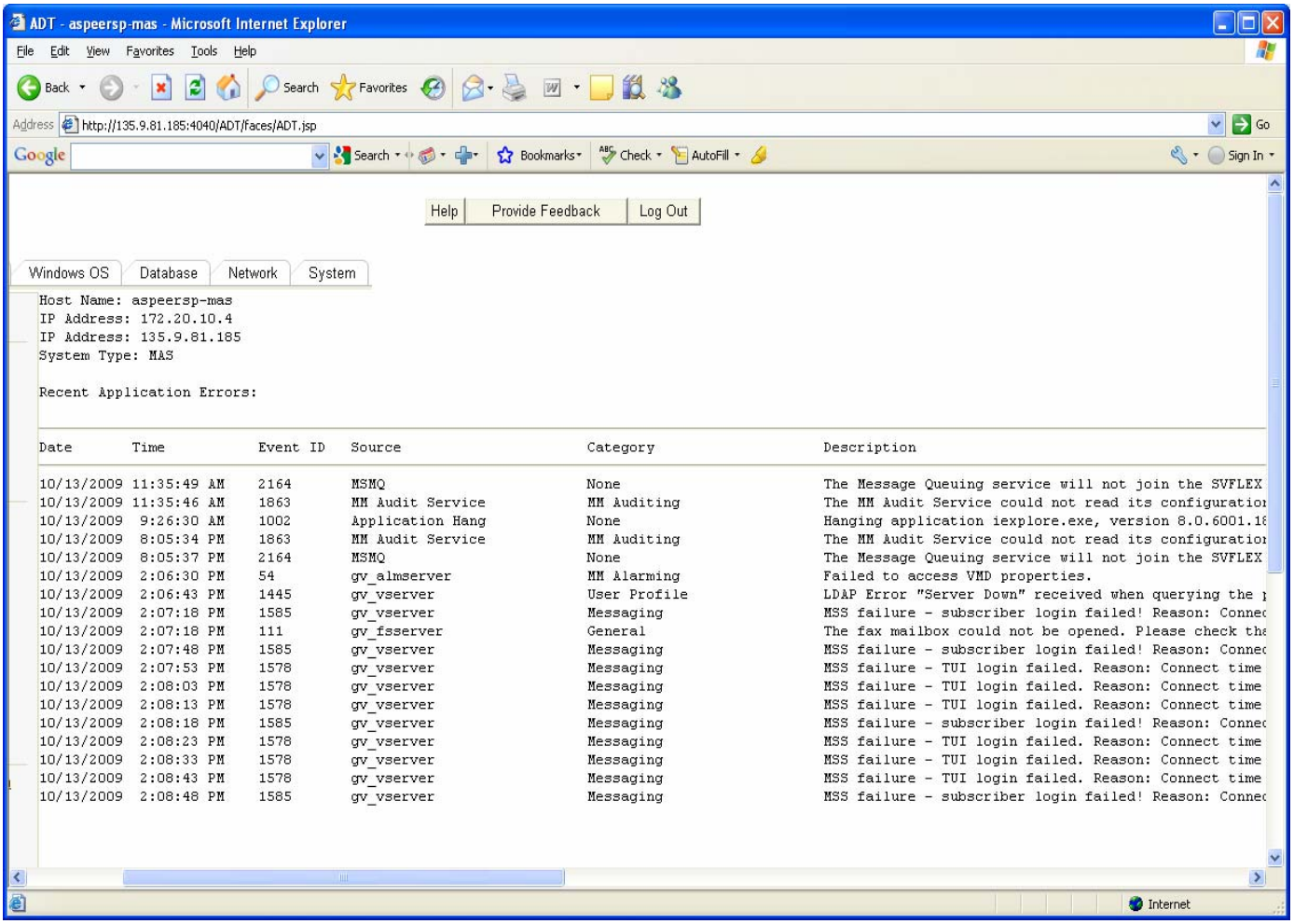
The Configuration “All” tool can be used to display all the Modular Messaging configuration items described in the previous sections.

1.2.2 Display Modular Messaging Status

This section describes the ADT tools for displaying the dynamic status of various Modular Messaging MAS applictaion components.

1.2.2.1 Recent Application Errors

The “Recent Application Errors” tool displays the list of Application type Errors from the windows event log over the past 12 hours. The date, time, event ID, Source, category, and description are displayed for each application error in the list. The following image shows some example output.



The list of recent application errors is retreived by executing the eventquery windows virtual basic script and parsing the output. The eventquery script queries event log based on parameters specified on the command line. These parameters include:

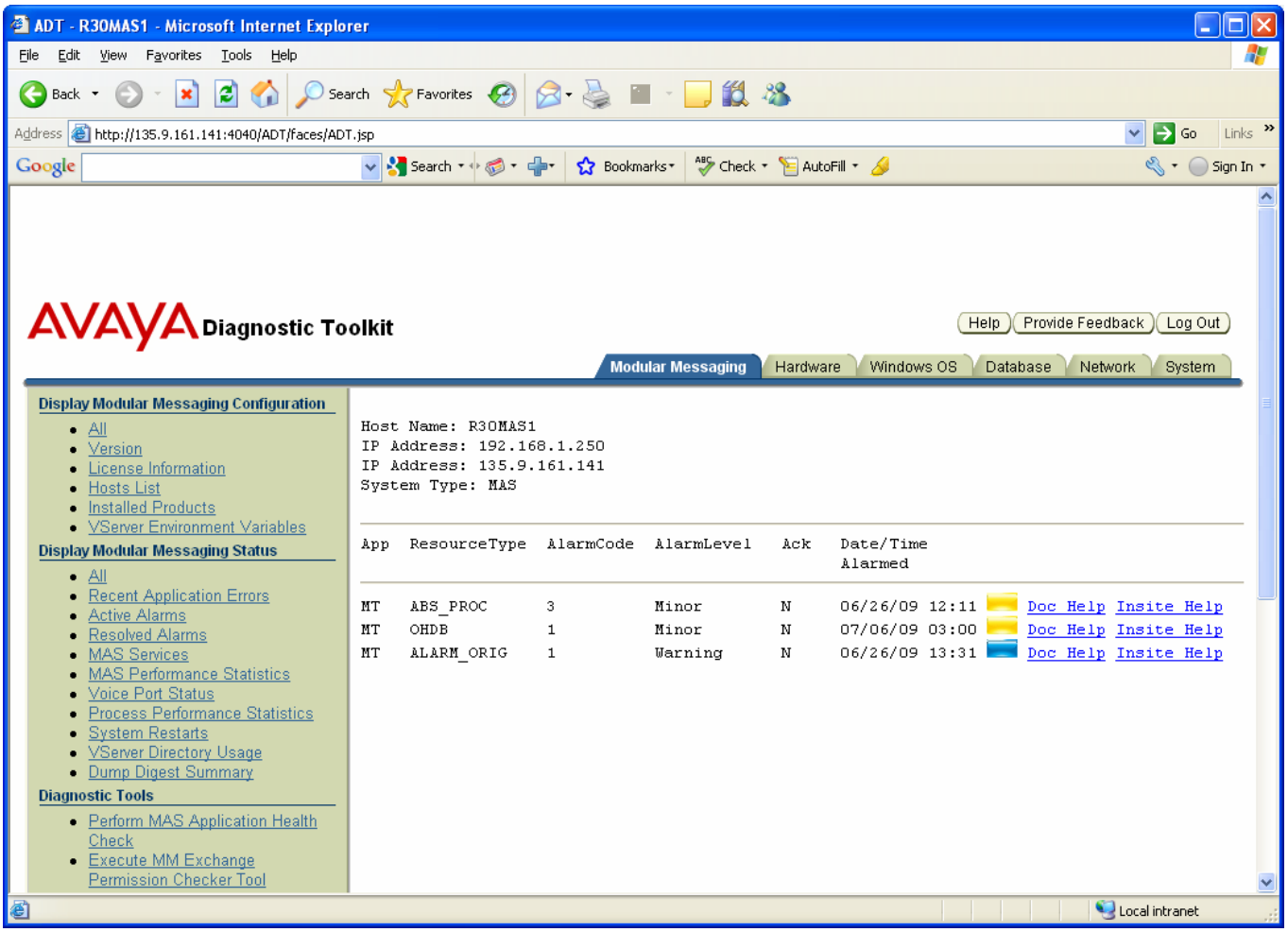
- Log type = application
- Message Type = Error
- Timestamp > 12 hours ago

- Source != “MM Snapshot Utility”

Note that the MMSnap application errors are filtered out (not displayed) in this query.

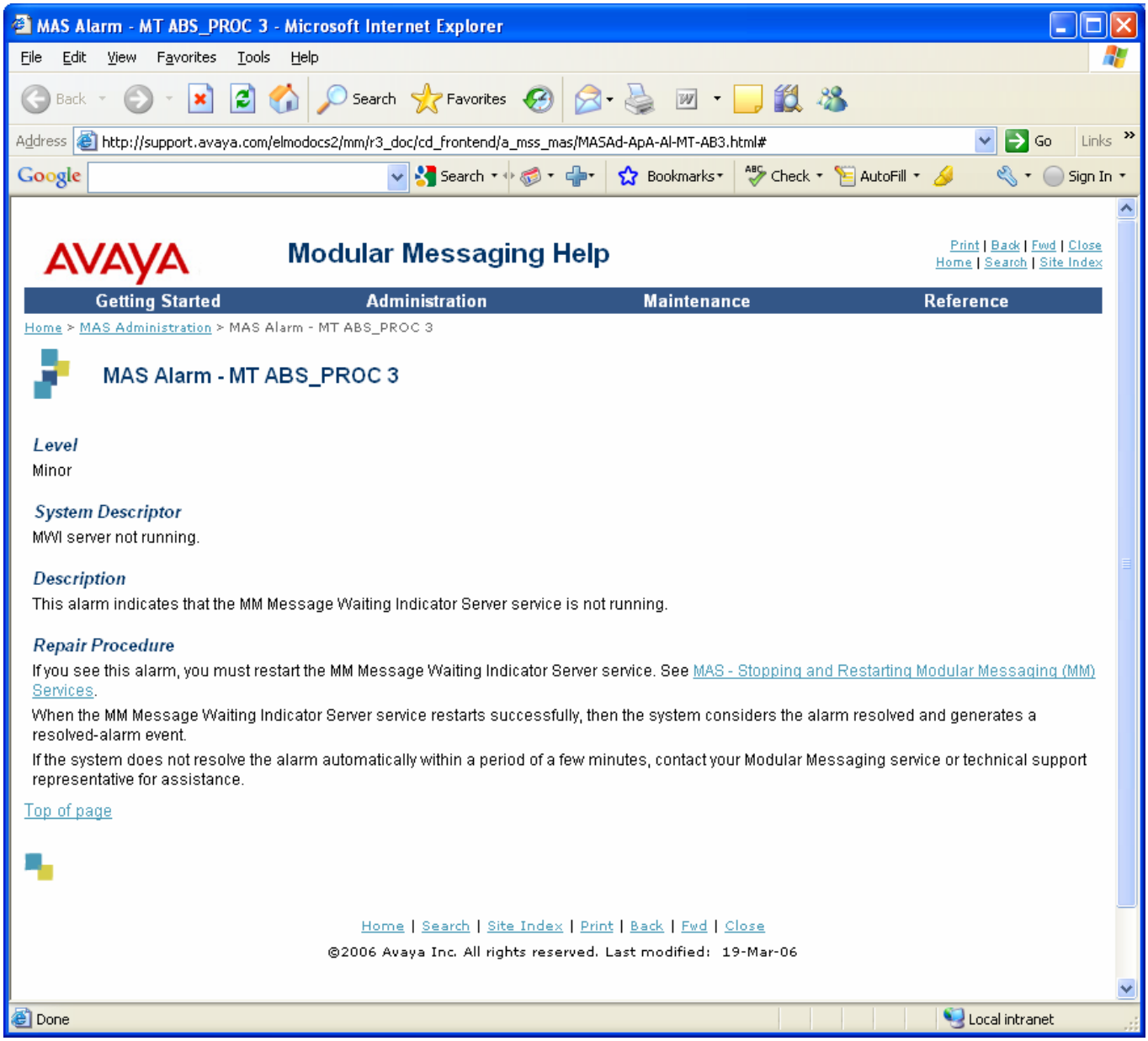
1.2.2.2 Active Alarms

The “Active Alarms” tool is used to display the list of current alarms on the MM MAS host. The application type, resource type, alarm code, alarm level, acknowlegement flag, timestamp, alarm level color indicator, documentation help link, and InSite help link will be displayed for each active alarm. The following image shows some example output.

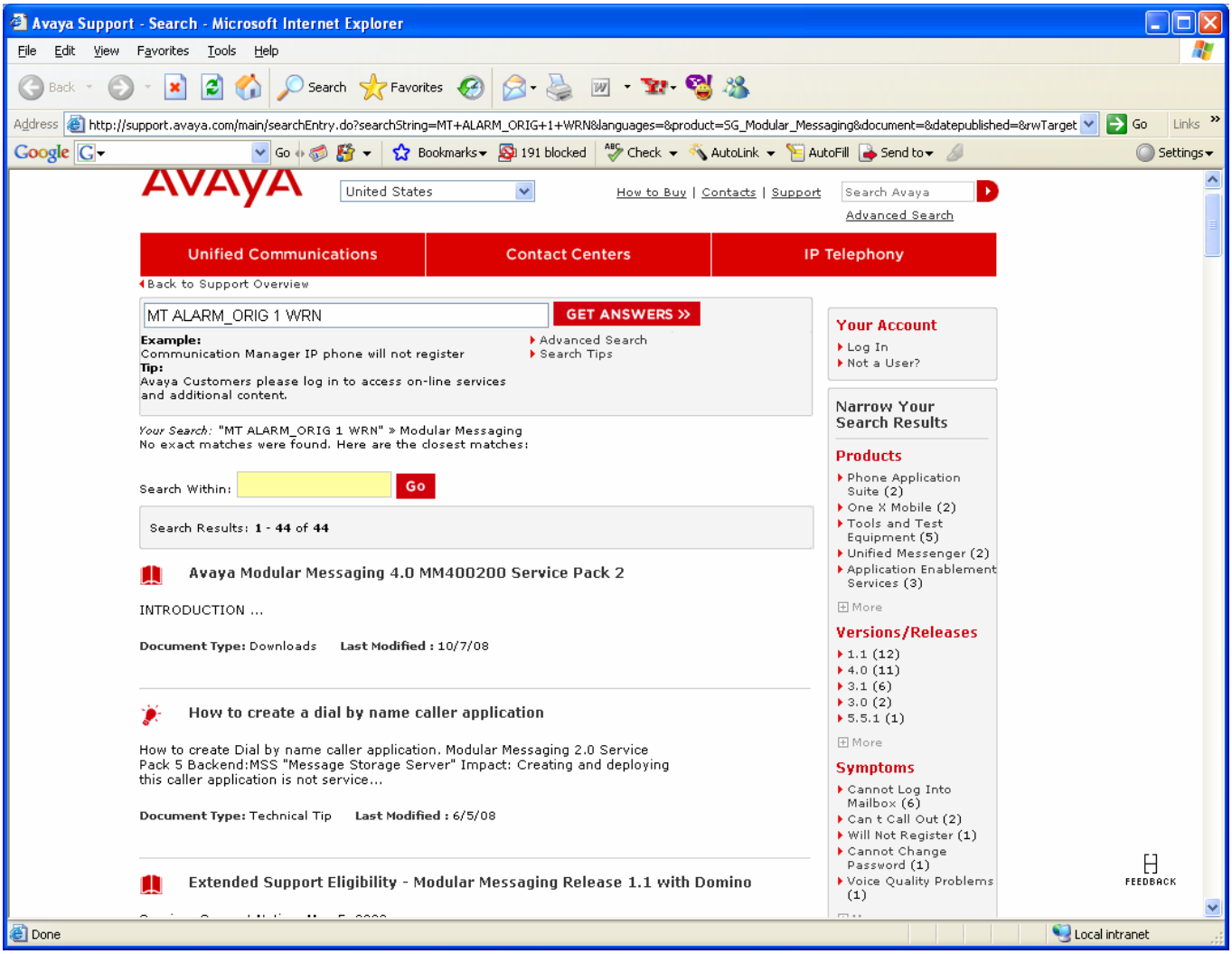


The list of active alarms is retrieved using the “displog –l act” command provided by the Modular Messaging application and parsing the resulting output.

If the user clicks on the “Doc Help” link for a specific alarm, the following window will be displayed containing more information on what caused the alarm and how to fix the underlying problem.



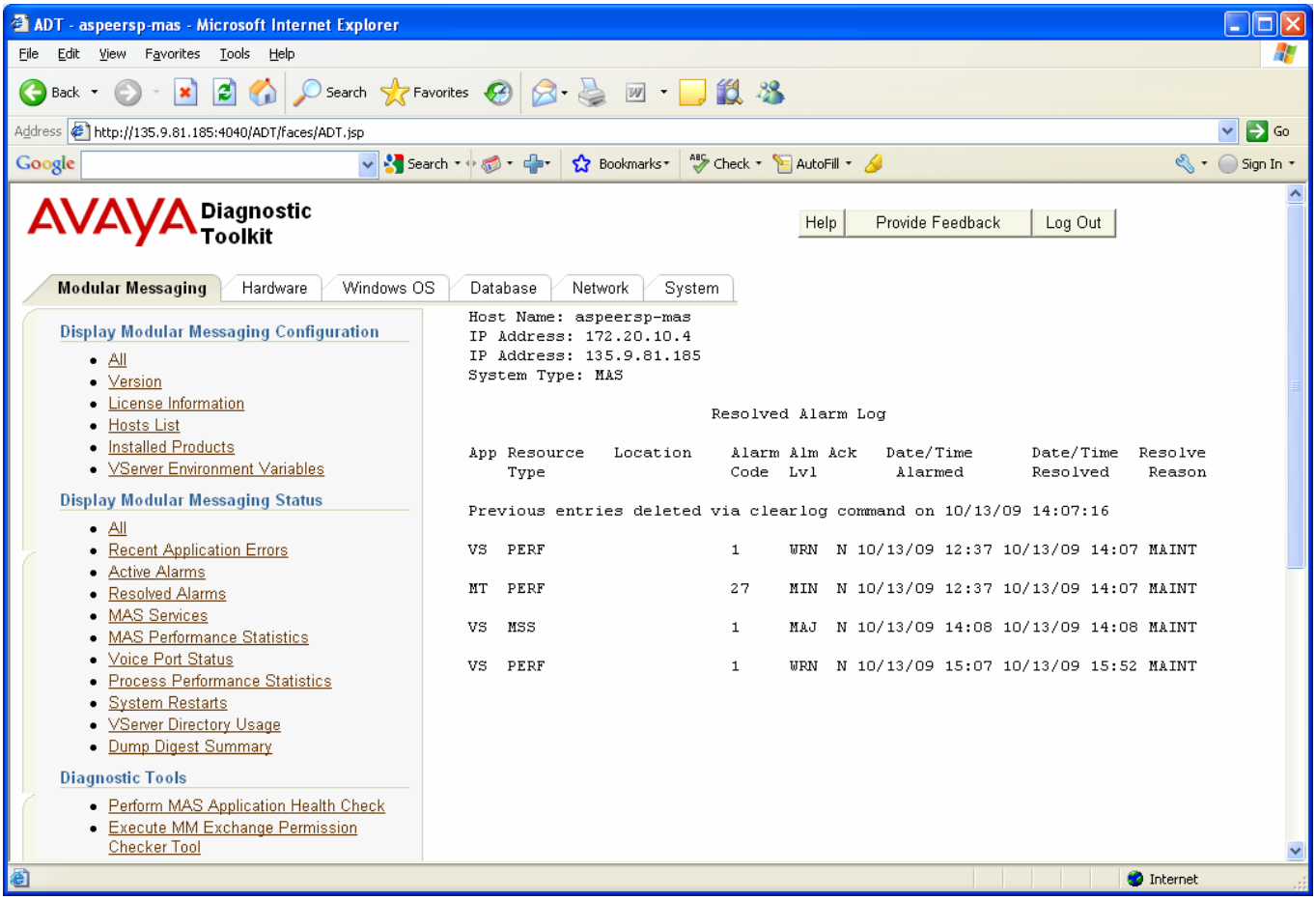
If the user clicks on the “InSite Help” link for a specific alarm, the following window will be displayed containing the list of InSite Knowledge Management articles related to the specified alarm.



Note that some of the links back to the Avaya support site may not work unless the user is logged into SSO. If the SSO login screen apears during the process, login using your SSO login id and password. Due to an issue on the support website, you will then have to close the window and click on the ADT link again.

1.2.2.3 Resolved Alarms

The “Resolved Alarms” tool is used to display the list of resolved alarms on the MM MAS server. The application type, resource type, location, alarm code, alarm level, acknowlegement flag, alarmed timestamp, resolved timestamp, and resolve reason. The following image shows some example output.



The list of resolved alarms is retrieved using the "displog –l res" command provided by the Modular Messaging application.

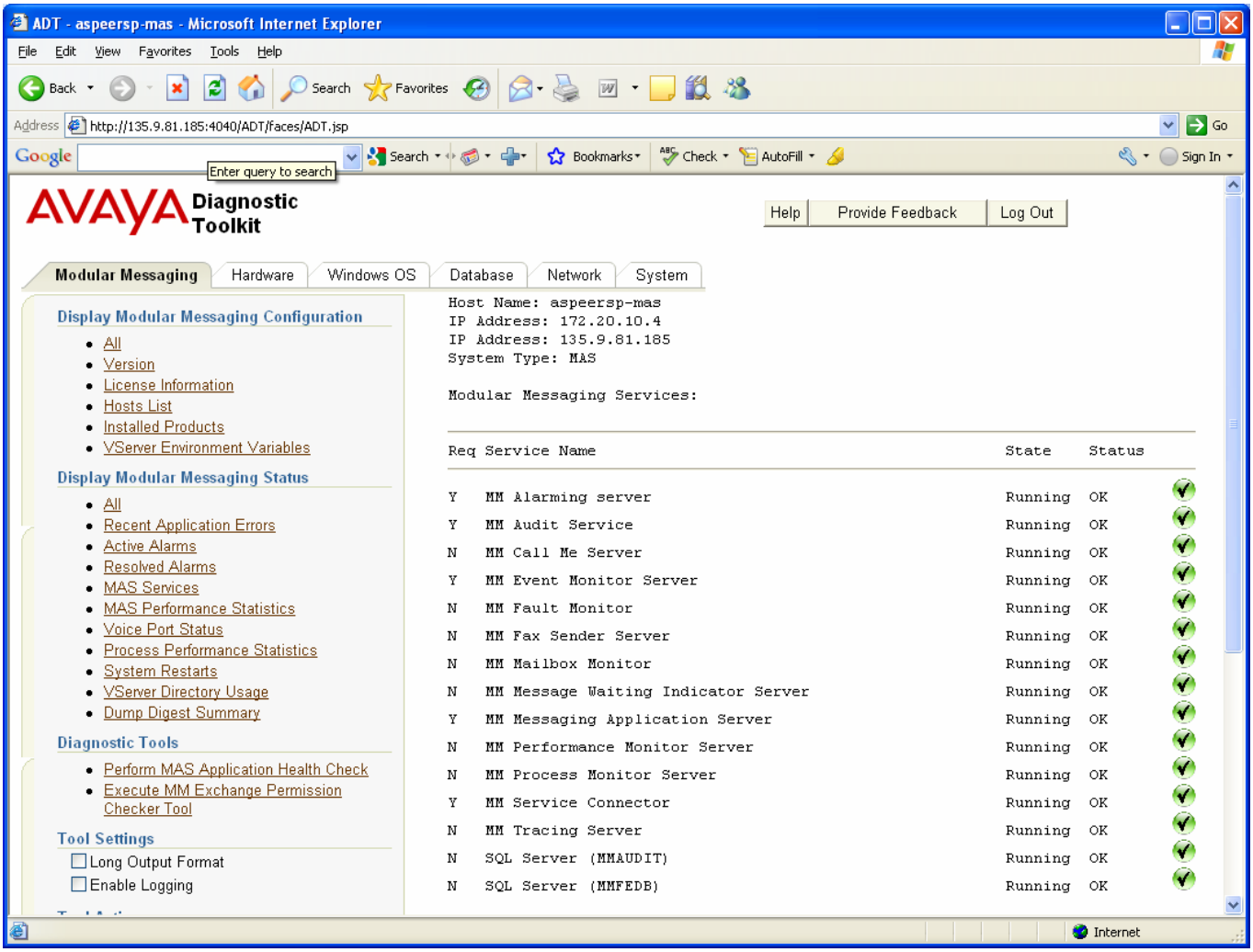
1.2.2.4 MAS Services

The "MAS Services" tool is used to display the list of MM MAS services that could be running on the MAS host. The following fields are displayed for each service listed.

- Req – this field indicates whether or not the service is required to be running on a MAS host
- Service Name – displays the name of the service
- State – the run state of the service
- Status – the status of the service

- Icon Indicator – indicates if there is a problem with the service or not (green check means the service is up and running, red X indicates that the service is required but is currently down, yellow question mark indicates that the service is down but it is not required)

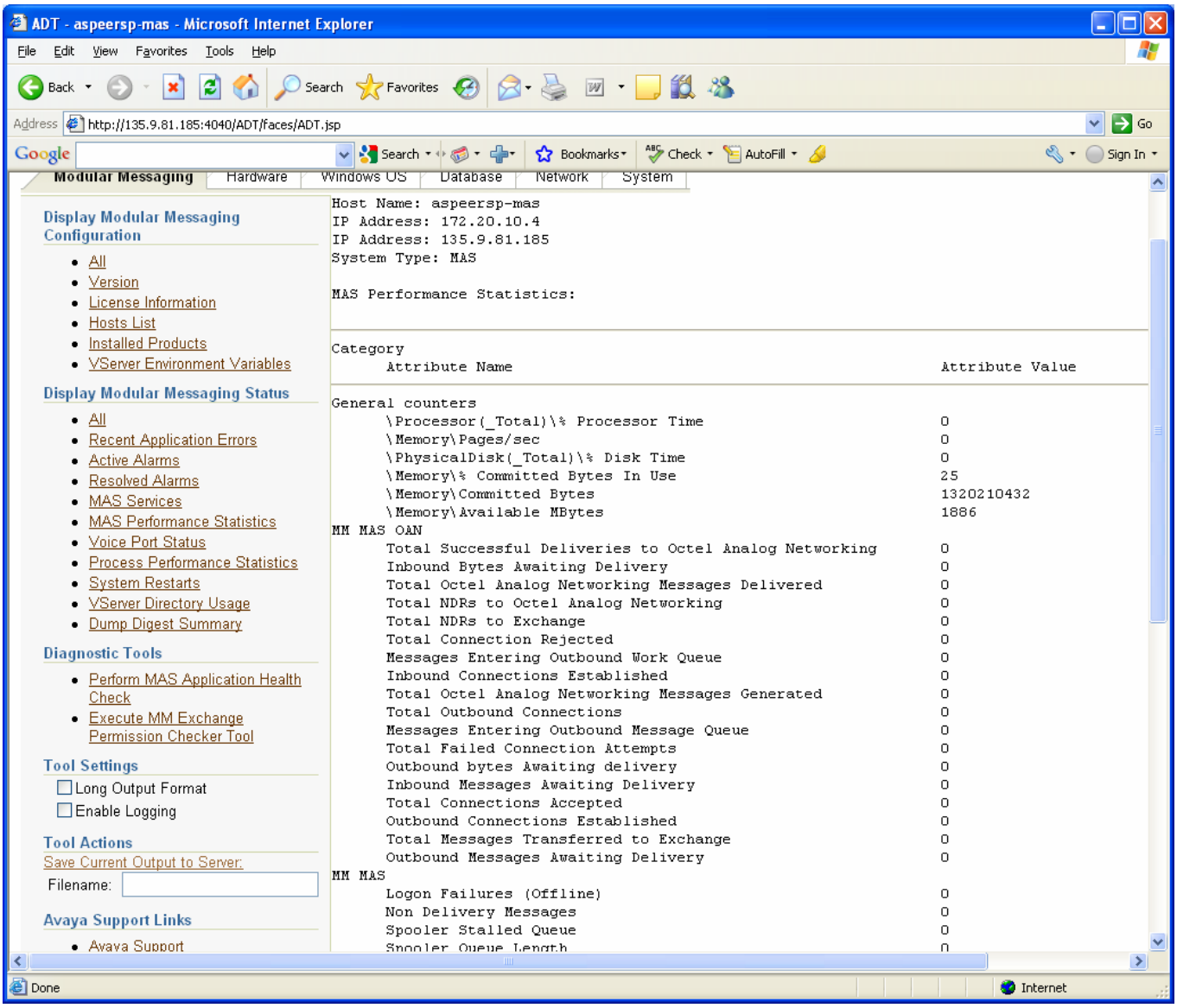
The long output version of the "MAS Services" command also displays the process ID, start mode, and path of each service. The following image shows some example output.



The MAS Services list is generated by going through the list of required services (maintained in an xml file within the ADT) and using the "wmic services" command output to gather other information about the service and determine if the service status.

1.2.2.5 MAS Performance Statistics

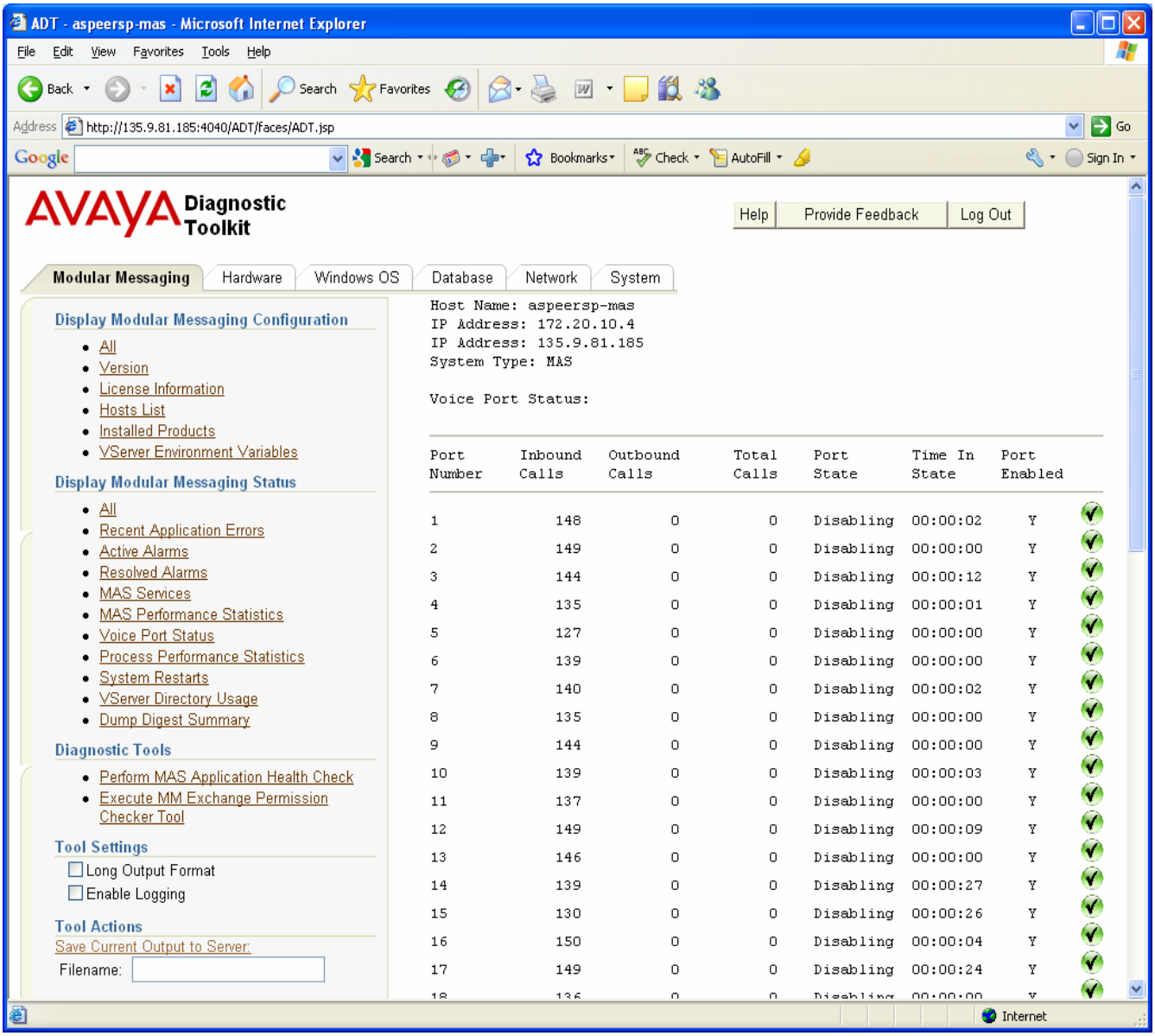
The "MAS Performance Statistics" tool is used to show the current internal statistics of the MAS and the MAS OAN intereface. The following image shows some example output of this tool.



The MAS performance statistics are retreived using the MMSnap tool and specifying “Performance counters” option from the GUI or “/e PERF” from the command line and parsing the output.

1.2.2.6 Voice Port Status

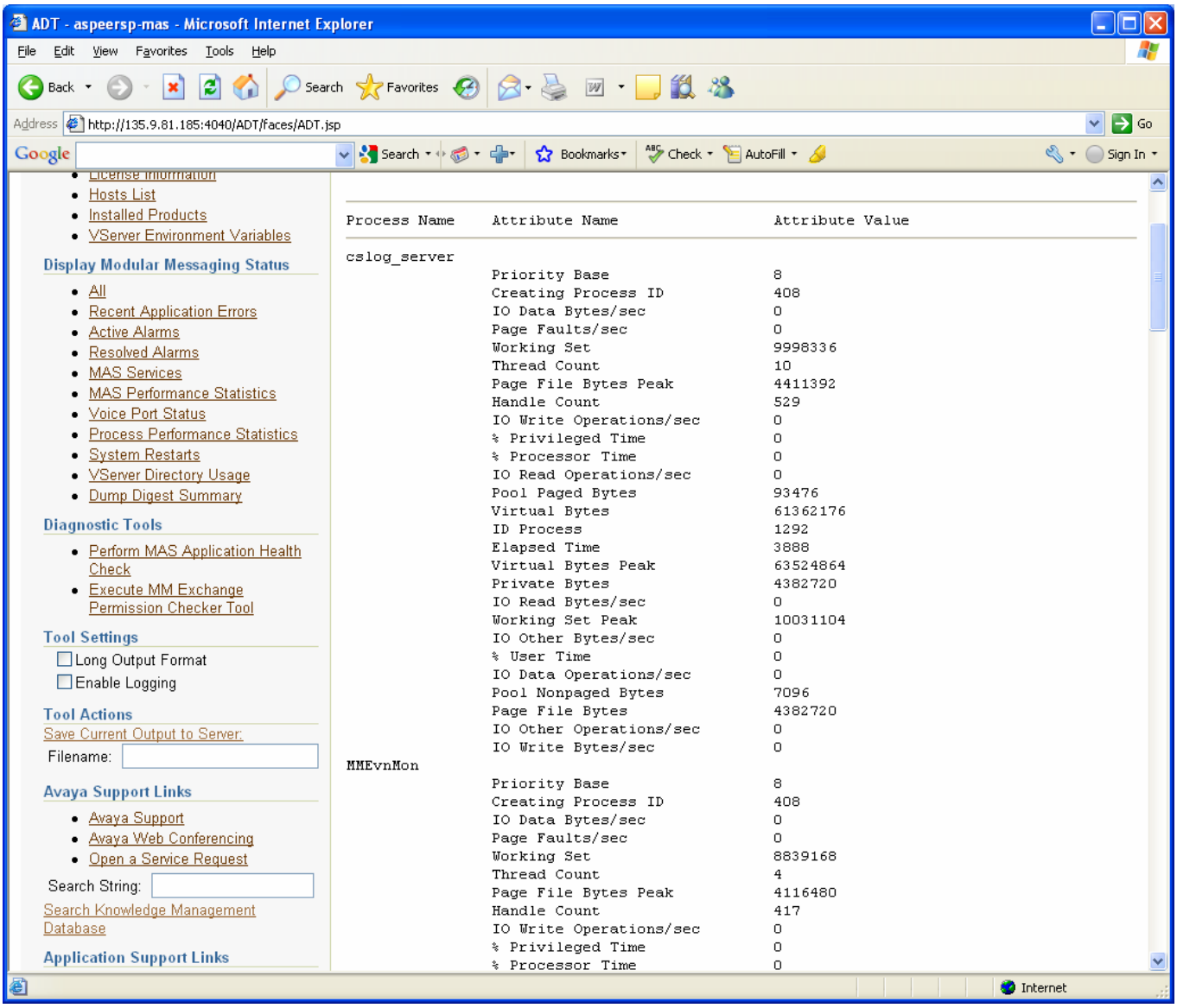
The “Voic Port Status” tool is used to display the current statistics and status of each voice port on the MAS server. The current number of inbound, outbound, and total calls are displayed for each configured port in addition to the port state, time in current state, port enabled flag, and the icon staus indicator. The following image shows some example output of this tool.



The voice port monitor data is retreived using the MMSnap tool and specifying “Performance counters” option from the GUI or “/e PERF” from the command line and parsing the output.

1.2.2.7 Process Performance Statistics

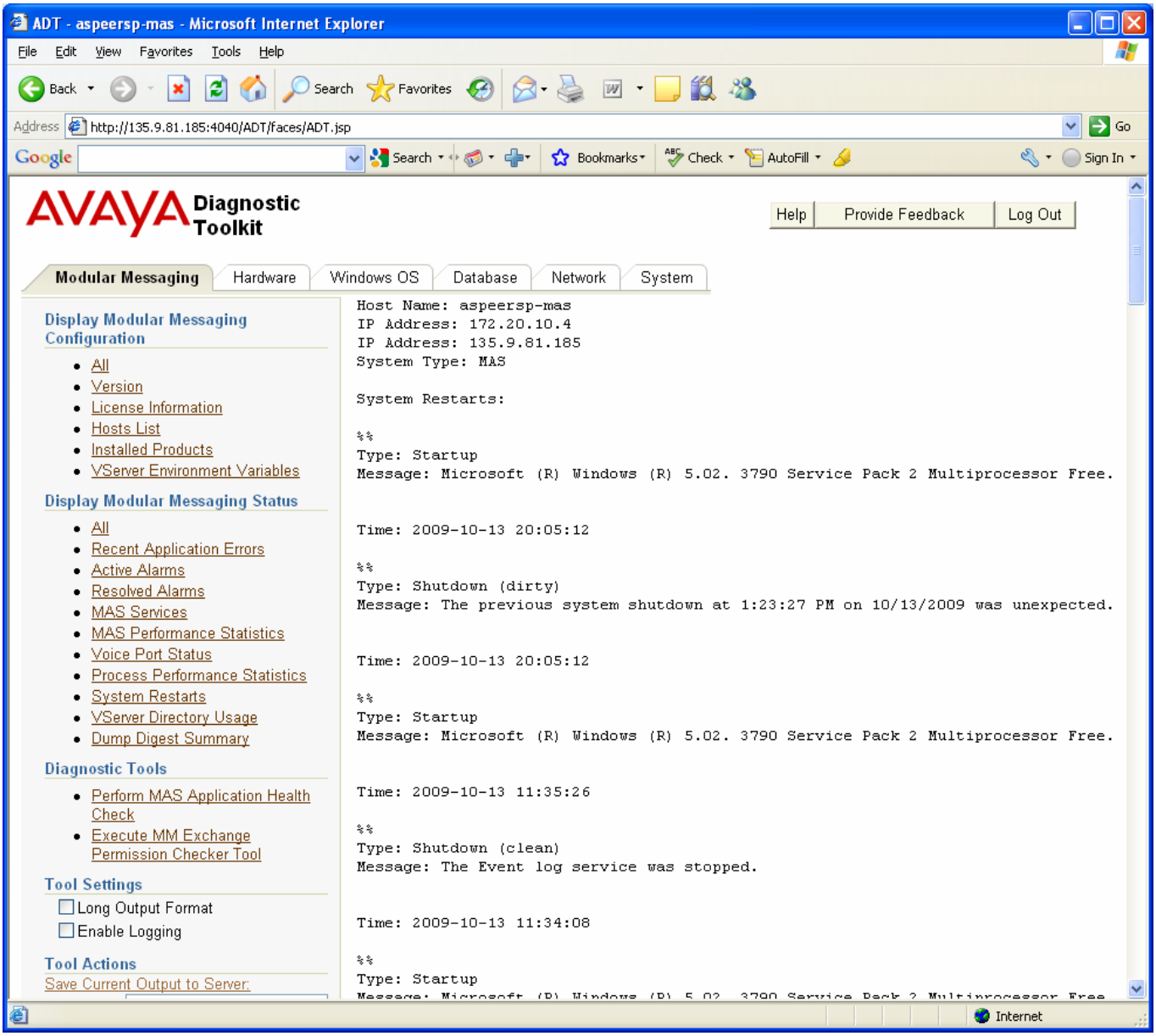
The “Process Performance Statistics” tool is used to display the current internal statistics for each of the key MM MAS processes/tasks. The following image shows some example output of this tool.



The process performance statistics data is retreived using the MMSnap tool and specifying "Performance counters" option from the GUI or "/e PERF" from the command line and parsing the output.

1.2.2.8 System Restarts

The "System Restarts" tool is used to display the history of MAS system shutdowns (both clean and dirty) and startups. The following image shows some example output of this tool.



The system restart data is retreived using the MMSnap tool and specifying “System Start and Shutdown” option from the GUI or “/e SUSD” from the command line and parsing the output.

1.2.2.9 VServer Directory Usage

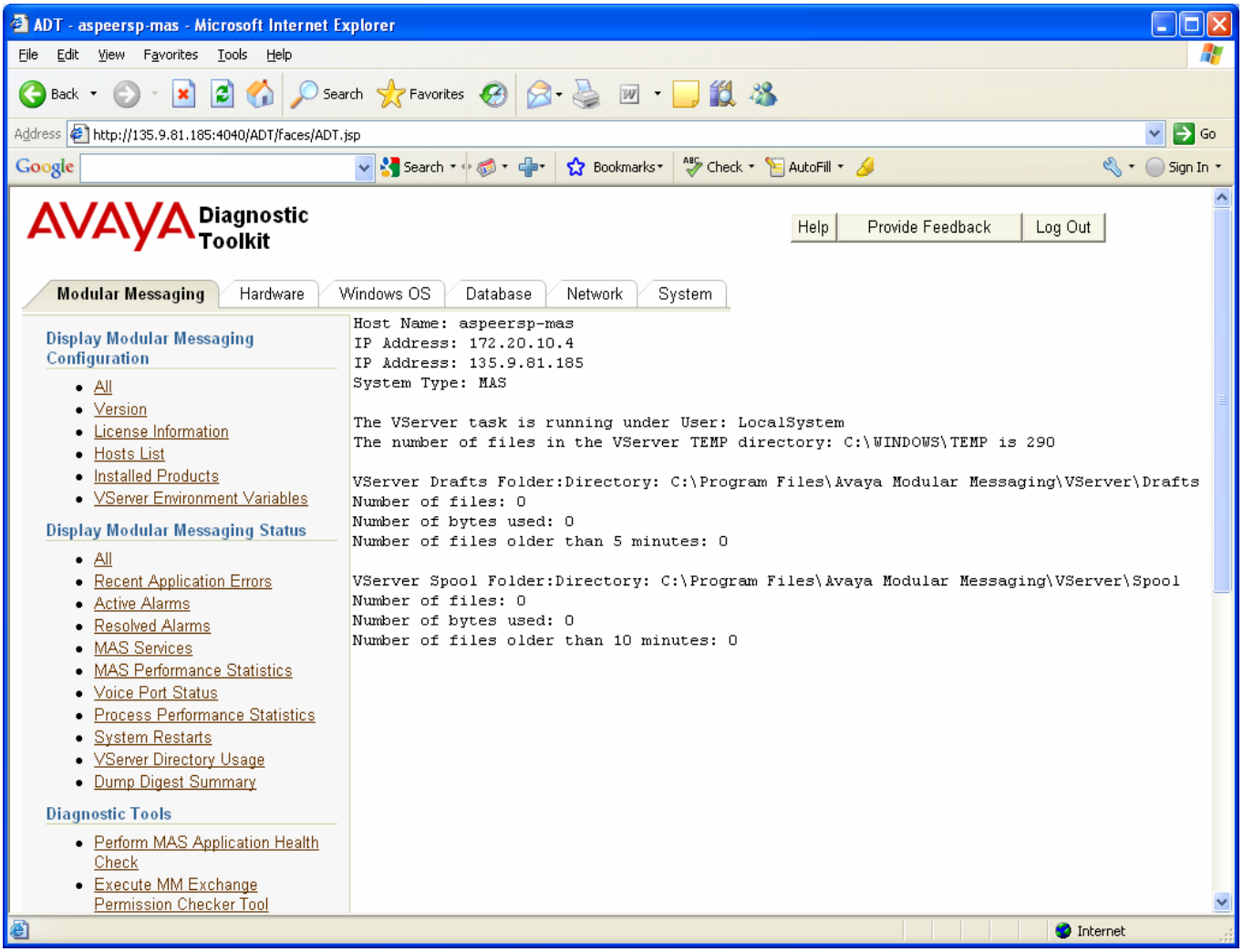
The “VServer Directory Usage” tool is used to display usage statistics for directories that the Modular Messaging MAS VServer uses during normal processing. Several common MAS problems are related to files not being cleaned up in these directories. The following directory information is returned by this tool.

- VServer TEMP directory – Number of filess in the TEMP directory for the user that the VServer is running as

- VServer Drafts Directory – Number of files, bytes used, and number of files older than 5 minutes

- VServer Spool Directory – Number of files, bytes used, and number of files older than 10 minutes

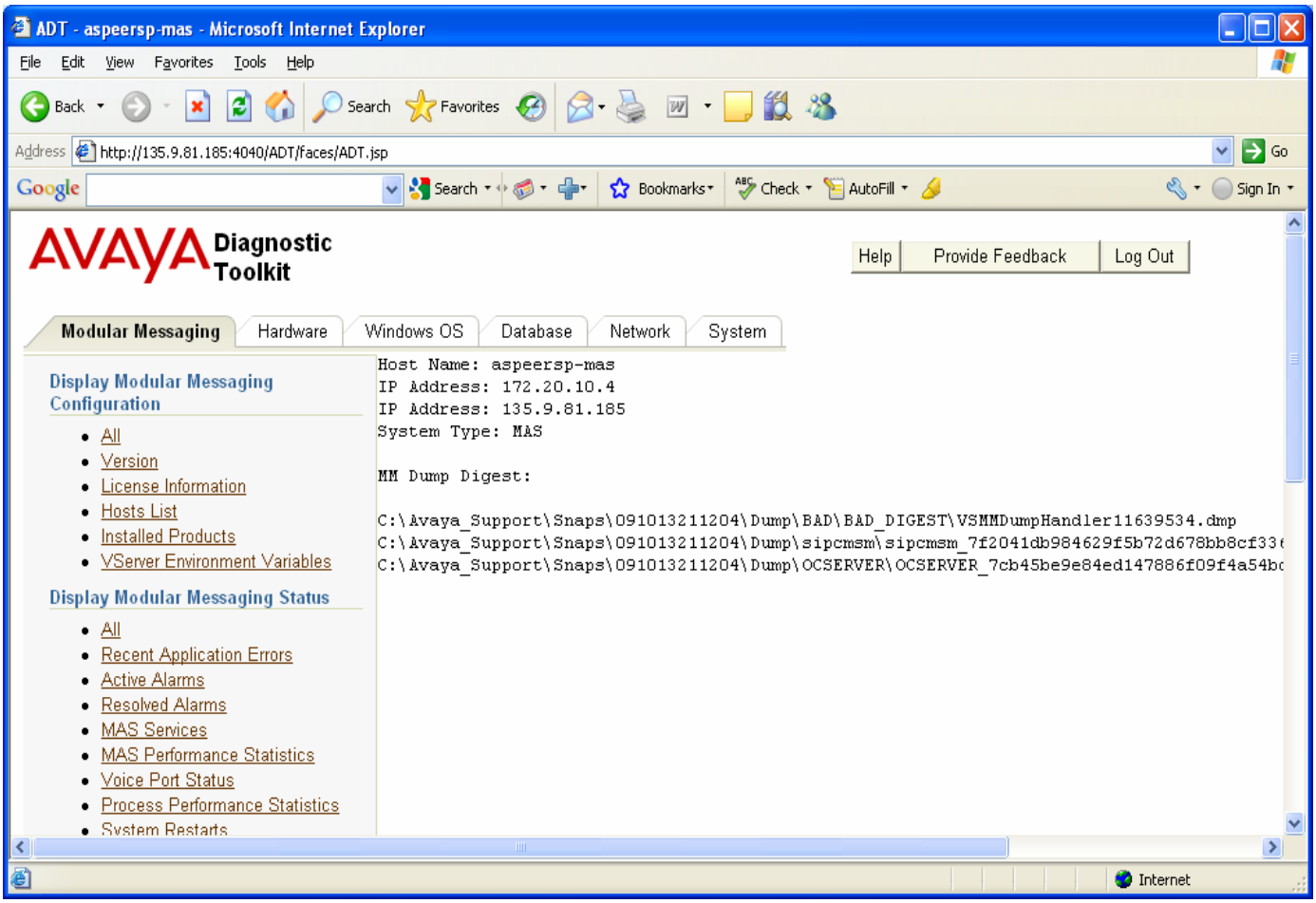
The following image shows some example output of this tool.



The VServer user is determined by looking up the start name field for the Vserver service using the "wmic service" command. The TEMP environment variable for that user is used as the TEMP directory location. The VServer Drafts and Spool directories are determined using the PWLIBPLUGINDIR system environment variable. The directory statistics are determined using Java file APIs.

1.2.2.10 Dump Digest Summary

The "Dump Digest Summary" tool is used to collect and package up Modular Messaging minidump files. If the tool executes successfully, it displays the full directory and filename of the minidump digest summary file.. The following image shows some example output of this tool.



The minidump files disgest collector is executed using the MMSnap tool and specifying "Minidump files digest collector" option from the GUI or "/e MNDC" from the command line and parsing the output.

1.2.2.11 All

The Status "All" tool can be used to display all the Modular Messaging Status items described in the previous sections.

1.2.3 Diagnostic Tools

This section discusses the ADT MAS Application Diagnostic tools available on the Modular Messaging MAS host.

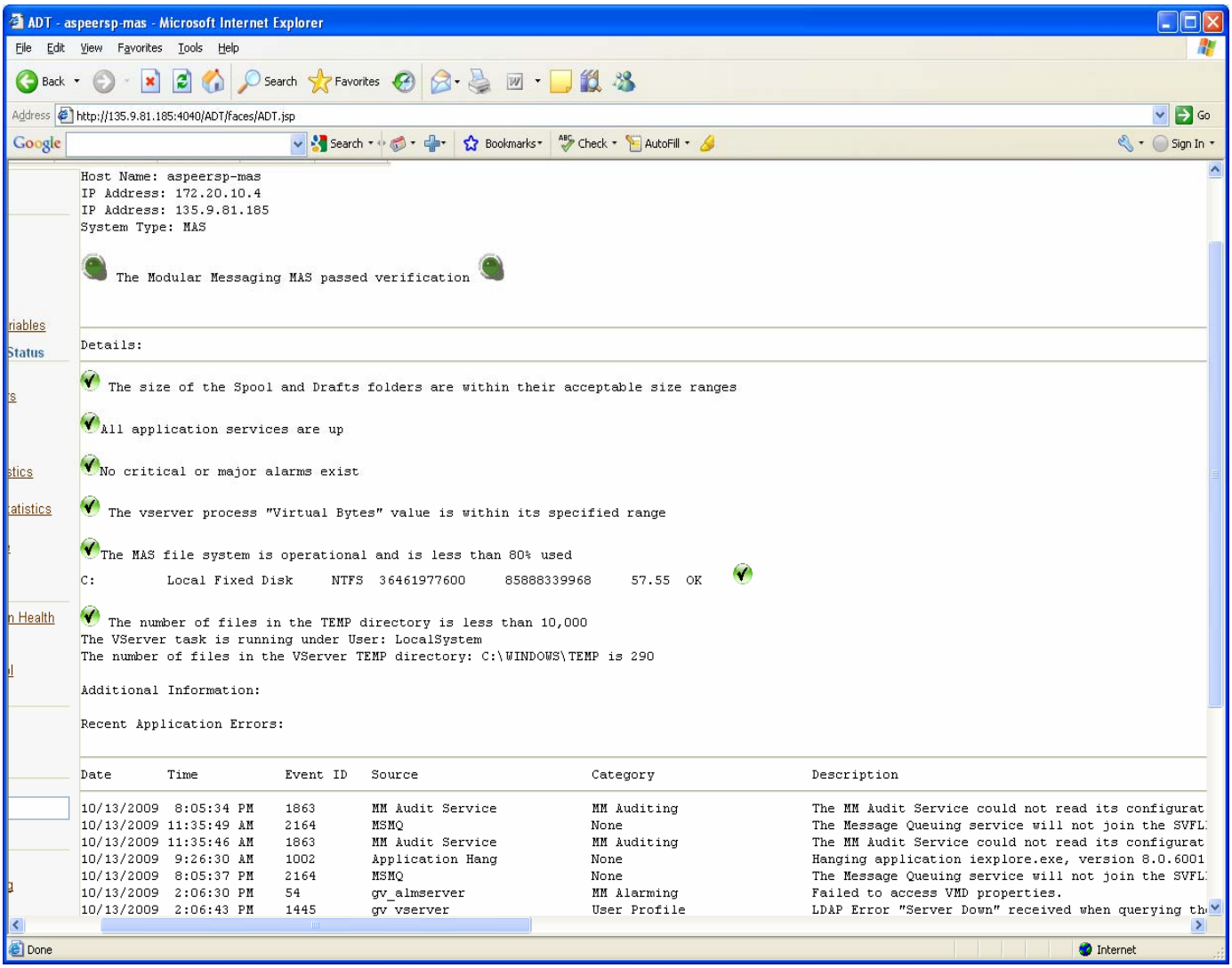
1.2.3.1 Perform MAS Application Health Check

This tool will perform a health check on the MAS application. The following items are verified by this tool:

- Size of VServer Drafts and Spool directories less than a specified level
- All required MAS application services are up
- No critical or major alarms exist
- The MAS license is valid
- The VServer process "Virtual Bytes" performance statistic value is within its specified range
- The MAS file system is operational and is less than 80% used
- The number of files in the TEMP directory is less than 10,000

It also displays the list of recent application errors

The following image shows an example run of the MAS application Health Check tool.



1.2.3.2 Execute MM Exchange Permission Checker Tool

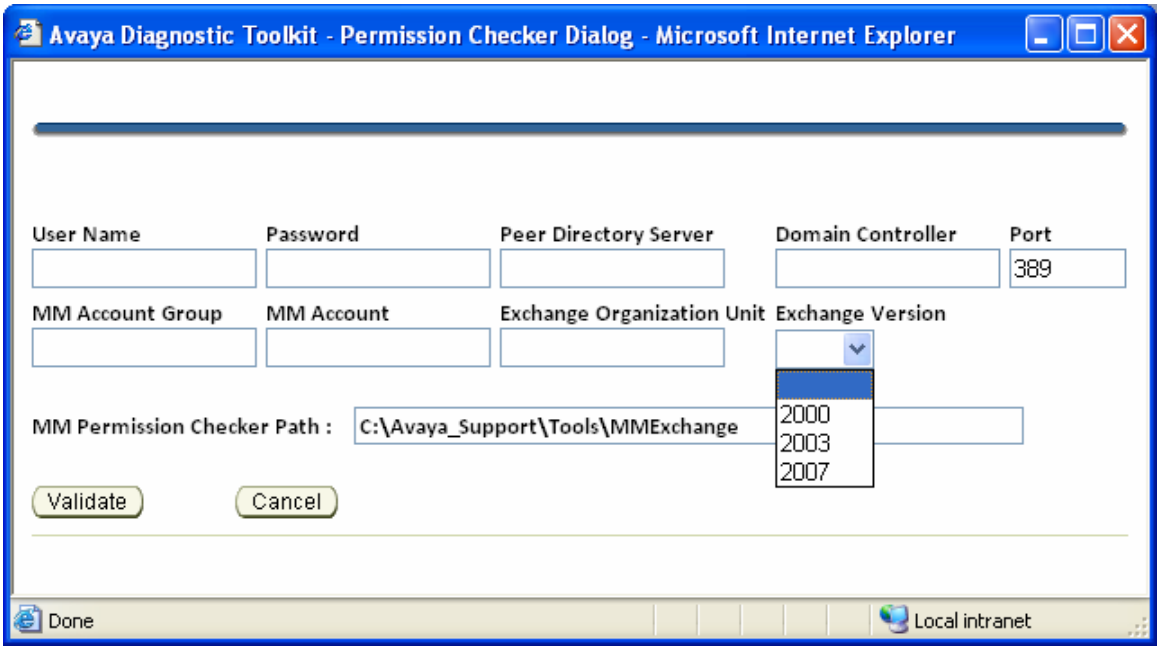
The MM Exchange Permission tool can be used to validate, update and set the MM related permissions for Exchange 2000/2003/2007 at Peer Directory Server for MM with Exchange Backend solution. This tool is developed mainly for the Backbone Engineers to help in troubleshooting the break fix and installation issues of MM with Exchange backend solutions. The tool can also be used by the customer administrator while installing the MM with Exchange Backend by automating the task of applying the MM related permissions for exchange at Peer Directory Server.

The ADT will run the MM Exchange tool remotely by providing the user input captured by the ADT UI from the end user. It will execute the Validate MM Permissions task from MAS. It will export and display the XML report from MAS.

Following are the steps to be followed to execute the permission checker tool through ADT

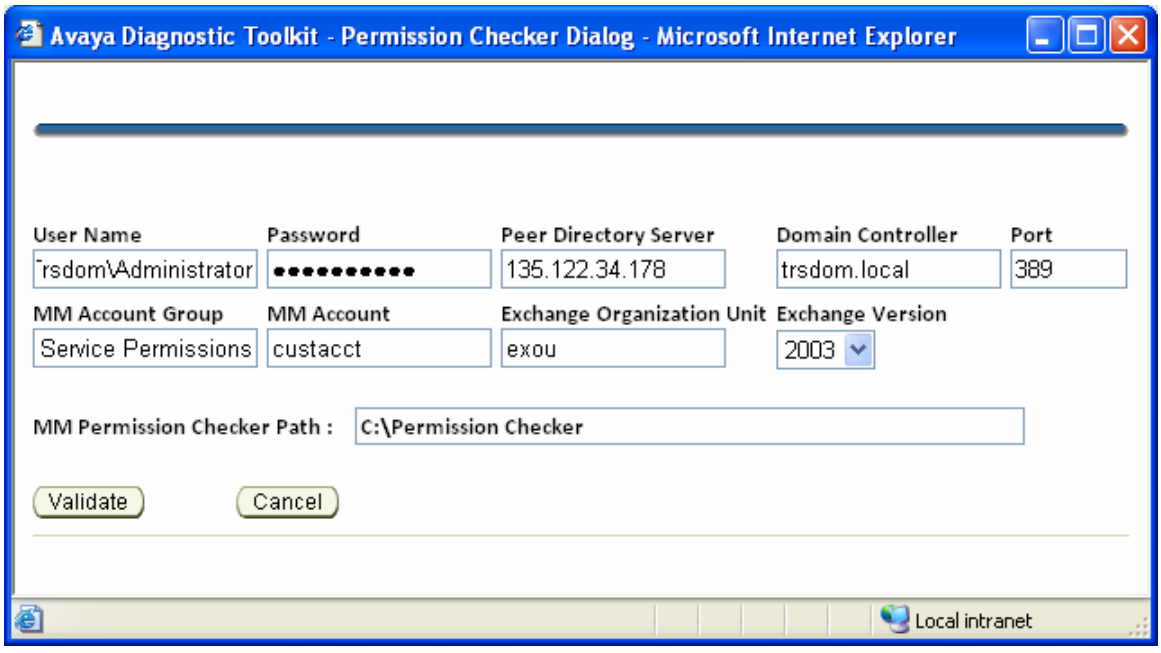
1.) Click on the "Execute Permission Checker Tool" link listed in the left hand side menu

2.) The Permission Checker input pop up is diaplyed after step 1 as shown in the following figure.



Note : The "***Port***", "***Exchange Version***" List and "***MM Permission Checker Path***" must be populated with the default values as shown in the above screen shot.

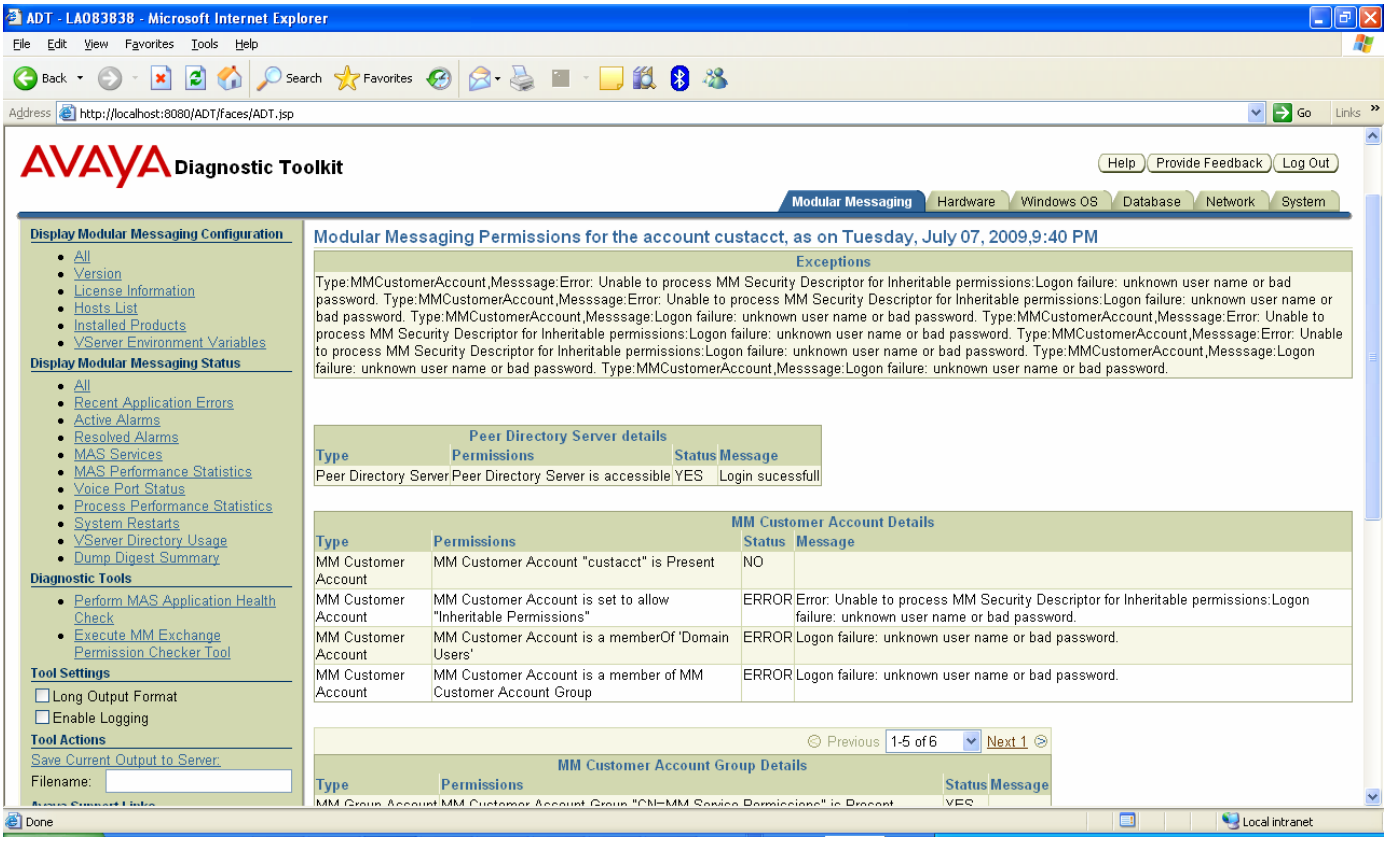
3.) Enter appropriate details of the background exchange server whose permissions has to be viewed as shown below and click on "***Validate"*** button

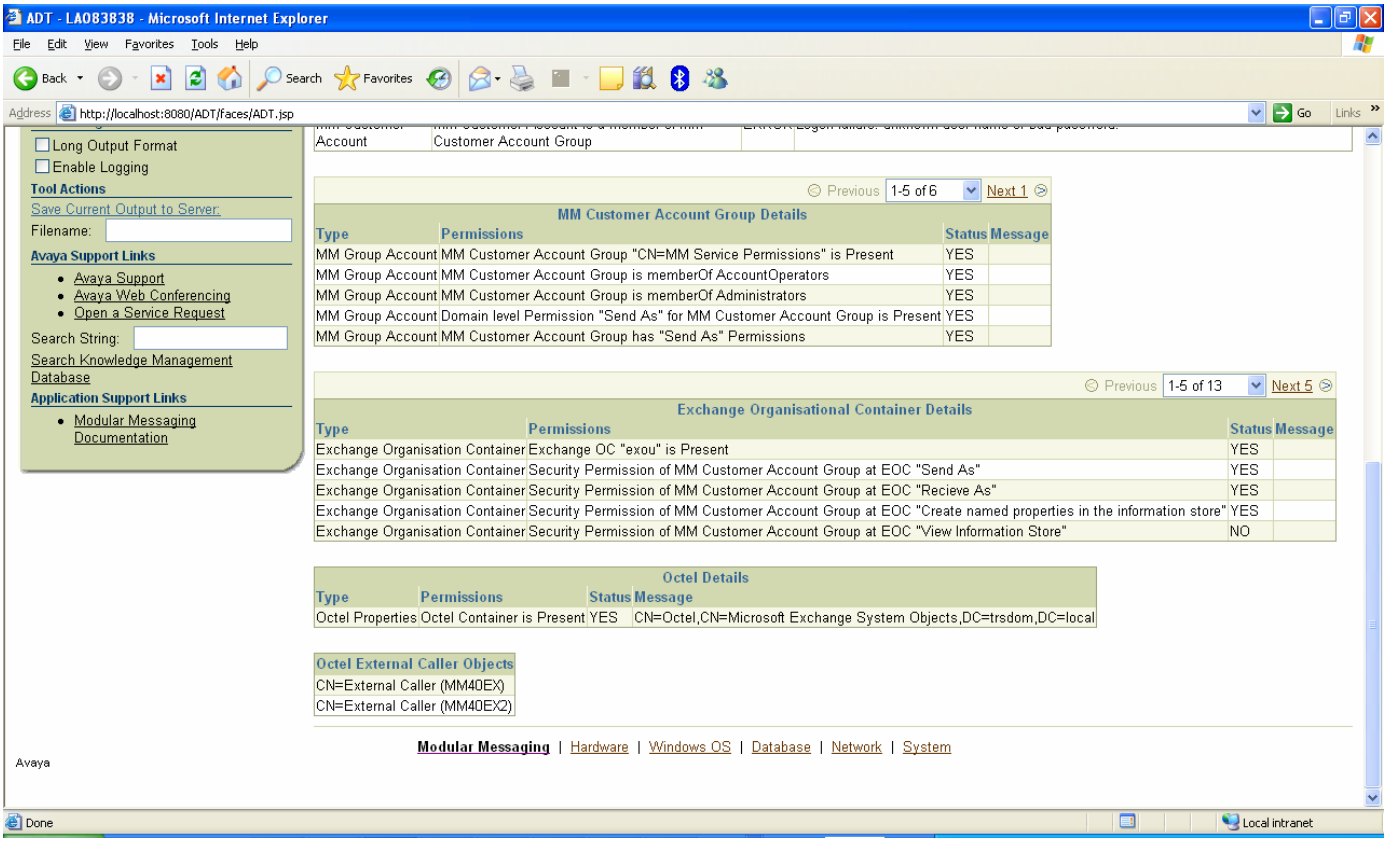


Note : The details of the fields displayed in the above screen shot are as follows:

- User Name: User name authorised to view the Permissions on the background exchange server.
- Password: User name authorised to view the Permissions on the background exchange server.
- PeerDirectoryServer: The IP address of the Peer directory server.
- DomainController: The name of the Domain controller.
- Port: The port number of the background exchange server.
- MMCustomerAcountGroup : The MM Customer Account Group name authorised to view the Permissions on the background exchange server.
- MMCustomerAccountName: The MM Customer Account name authorised to view the Permissions on the background exchange server.
- ExchangeOrgContainer: The Exchange organisation container name of the background exchange server.
- ExchangeVersion : The version of the background exchange server.
- MM Permission Checker Path: The path on the local system where the "MMPermissionsChecker.exe" resides.

4.) Valid results are displayed as shown below, if the input values are entered



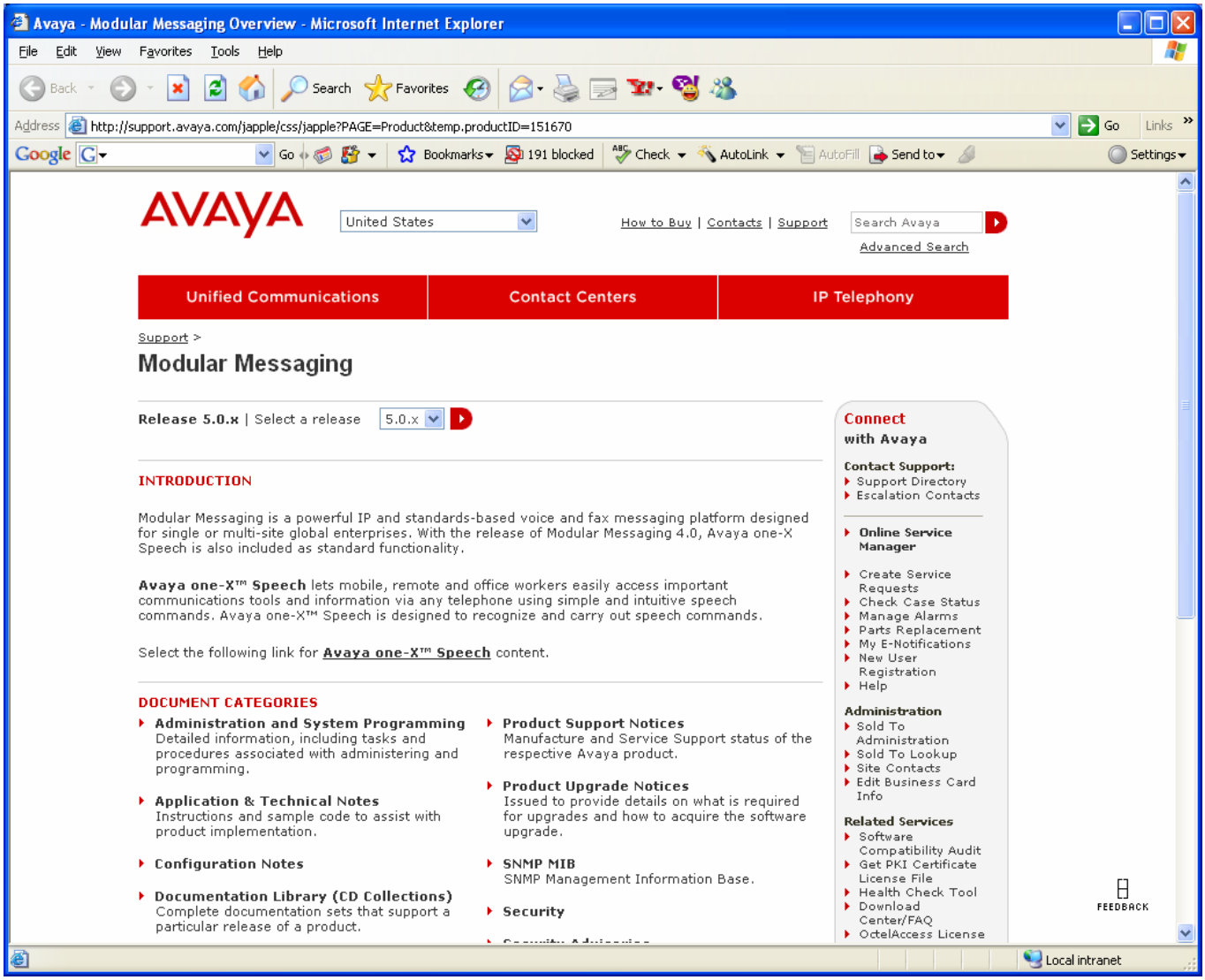


1.2.4 Application Support Links

This section discusses the various application support links available within the ADT.

1.2.4.1 Modular Messaging Documentation Support Link

If the user clicks on the “Modular Messaging Documentation” link, a new browser window will be opened on the user’s desktop containing the main Modular Messaging support site page. The following image shows an example of this page.


Avaya - Modular Messaging Overview - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://support.avaya.com/japple/css/japple?PAGE=Product&temp.productID=151670
Go Links
Google Go Bookmarks 191 blocked Check AutoLink AutoFill Send to Settings
AVAYA
United States
How to Buy | Contacts | Support
Search Avaya
Advanced Search
Unified Communications
Contact Centers
IP Telephony
Support >
Modular Messaging
Release 5.0.x | Select a release 5.0.x
INTRODUCTION
Modular Messaging is a powerful IP and standards-based voice and fax messaging platform designed for single or multi-site global enterprises. With the release of Modular Messaging 4.0, Avaya one-X Speech is also included as standard functionality.
Avaya one-X™ Speech lets mobile, remote and office workers easily access important communications tools and information via any telephone using simple and intuitive speech commands. Avaya one-X™ Speech is designed to recognize and carry out speech commands.
Select the following link for Avaya one-X™ Speech content.
DOCUMENT CATEGORIES
Administration and System Programming
Detailed information, including tasks and procedures associated with administering and programming.
Application & Technical Notes
Instructions and sample code to assist with product implementation.
Configuration Notes
Documentation Library (CD Collections)
Complete documentation sets that support a particular release of a product.
Product Support Notices
Manufacture and Service Support status of the respective Avaya product.
Product Upgrade Notices
Issued to provide details on what is required for upgrades and how to acquire the software upgrade.
SNMP MIB
SNMP Management Information Base.
Security
Connect with Avaya
Contact Support:
Support Directory
Escalation Contacts
Online Service Manager
Create Service Requests
Check Case Status
Manage Alarms
Parts Replacement
My E-Notifications
New User Registration
Help
Administration
Sold To Administration
Sold To Lookup
Site Contacts
Edit Business Card Info
Related Services
Software Compatibility Audit
Get PKI Certificate License File
Health Check Tool
Download Center/FAQ
OctelAccess License
FEEDBACK
Local intranet

CHAPTER 2 – HARDWARE DIAGNOSTIC TOOLS

2.1 Chapter Goal

The goal of this chapter is to learn how to use the ADT to view current Modular Messaging MAS hardware configuration and status information and to check the Modular Messaging MAS host for hardware errors.

2.2 Hardware Diagnostic Tools

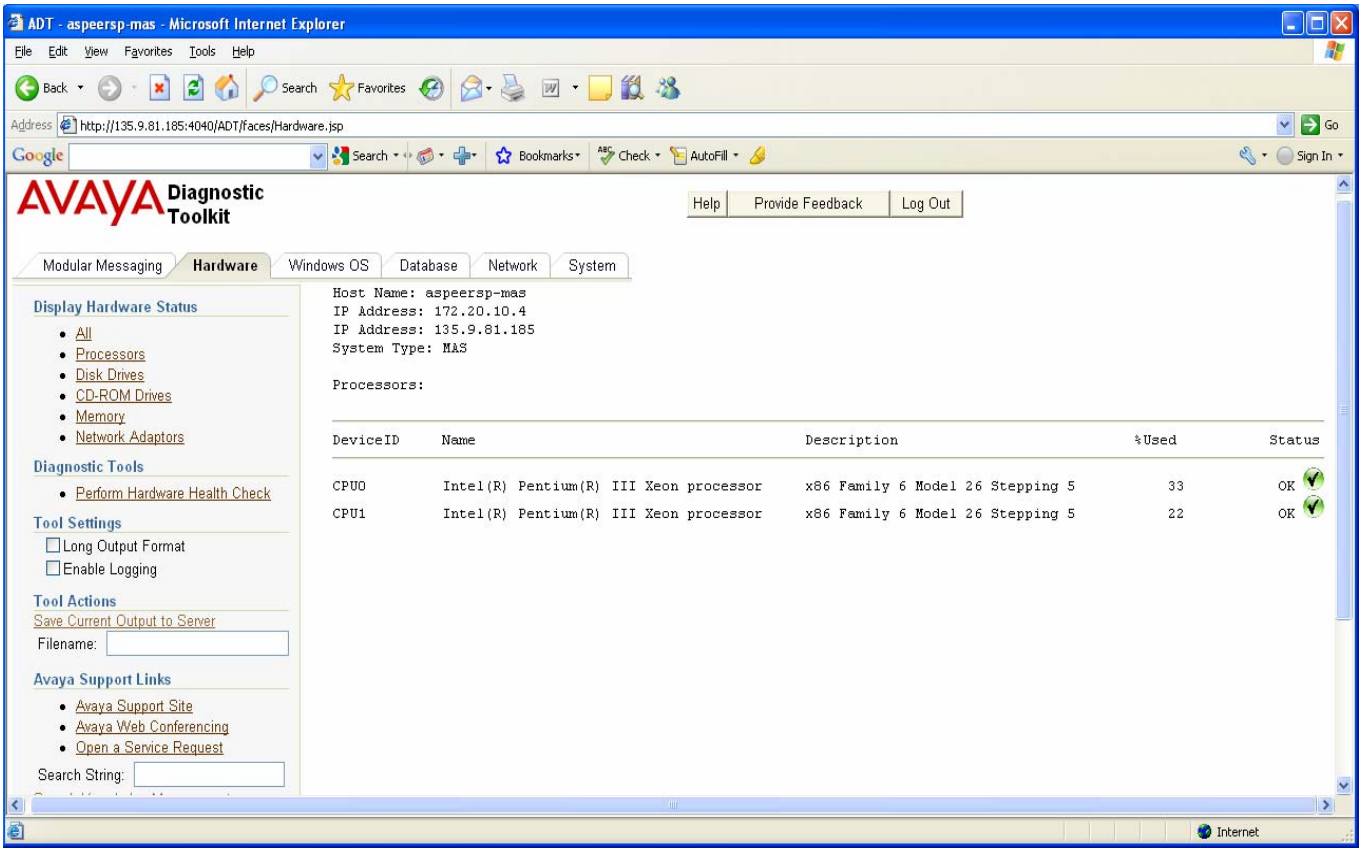
This section discusses the various hardware diagnostic tools provides by the ADT.

2.2.1 Display Hardware Configuration

This section discusses the ADT tool used for viewing the Hardware configuration on an Modular Messaging MAS host.

2.2.1.1 Processor

The list of configured processors on the MAS host can be displayed by selecting the "Processor" option in the "Hardware" tab. The following image shows the output for the tool.



The long output version of this tool displays all the fields for each processor. The following is an example of the data that is displayed in the long output version of this tool:

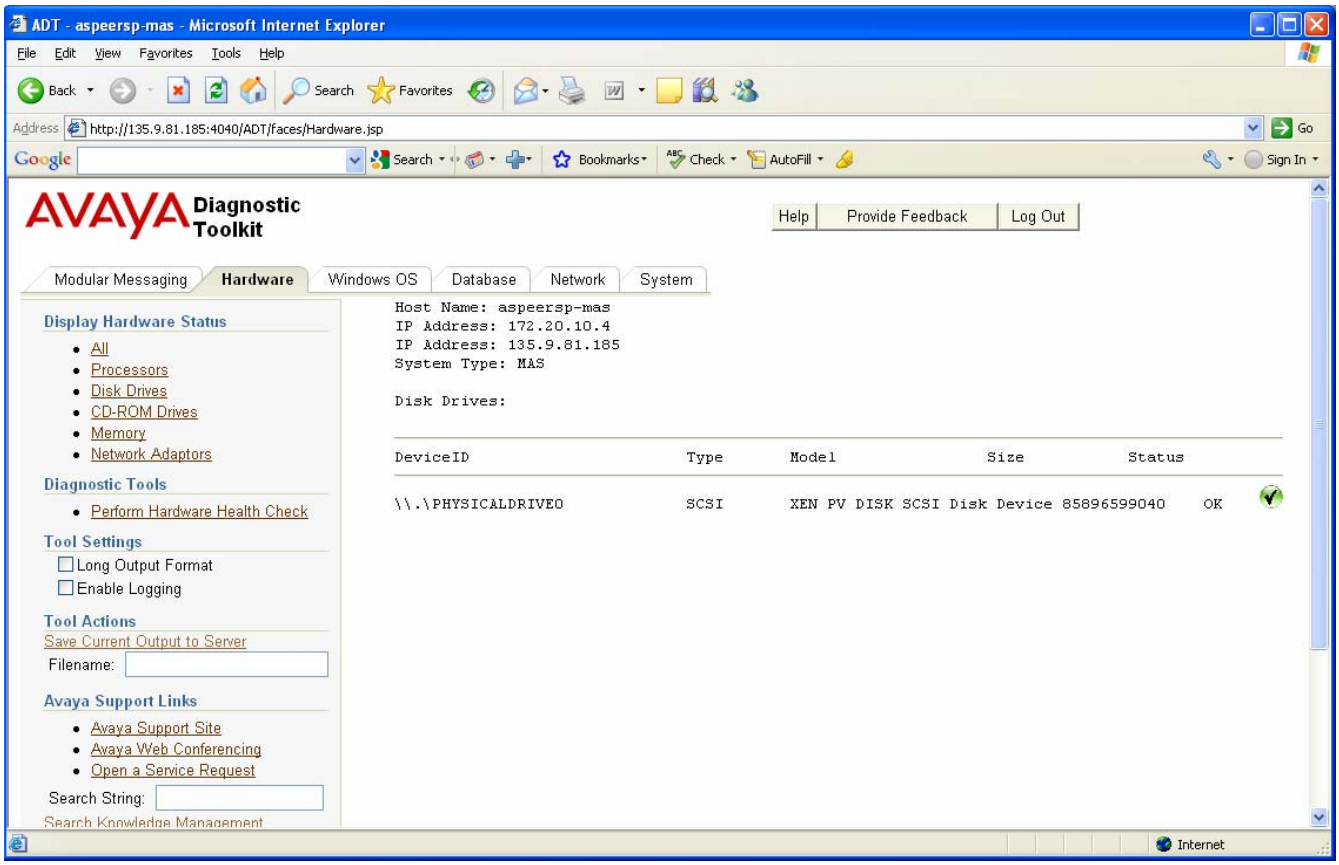
```
Processors:

SystemName: MMR31MAS1
Status: OK
ProcessorId: 3FEBFBFF00000F24
ProcessorType: 3
DataWidth: 32
StatusInfo: 3
ExtClock: 100
PowerManagementSupported: FALSE
Description: x86 Family 15 Model 2 Stepping 4
MaxClockSpeed: 1993
Version: Model 2, Stepping 4
CurrentVoltage: 30
Name: Intel(R) Pentium(R) 4 CPU 2.00GHz
DeviceID: CPU0
CreationClassName: Win32_Processor
CpuStatus: 1
Stepping: 4
AddressWidth: 32
Manufacturer: GenuineIntel
SocketDesignation: J1D1
Revision: 516
Availability: 3
Family: 178
```

```
CurrentClockSpeed: 1993
L2CacheSize: 512
UpgradeMethod: 4
L2CacheSpeed: 1993
SystemCreationClassName: Win32_ComputerSystem
Role: CPU
Caption: x86 Family 15 Model 2 Stepping 4
Level: 15
LoadPercentage: 2
Architecture: 0
```

The processor information is retrieved using the windows "wmic cpu" command and parsing the output.

2.2.1.2 Disk Drives

The list of configured disk drives on the MAS host can be displayed by selecting the "Disk Drives" option in the "Hardware" tab. The following image shows the output for the tool.



The long output version of this tool displays all the fields for each disk drive. The following is an example of the data that is displayed in the long output version of this tool:

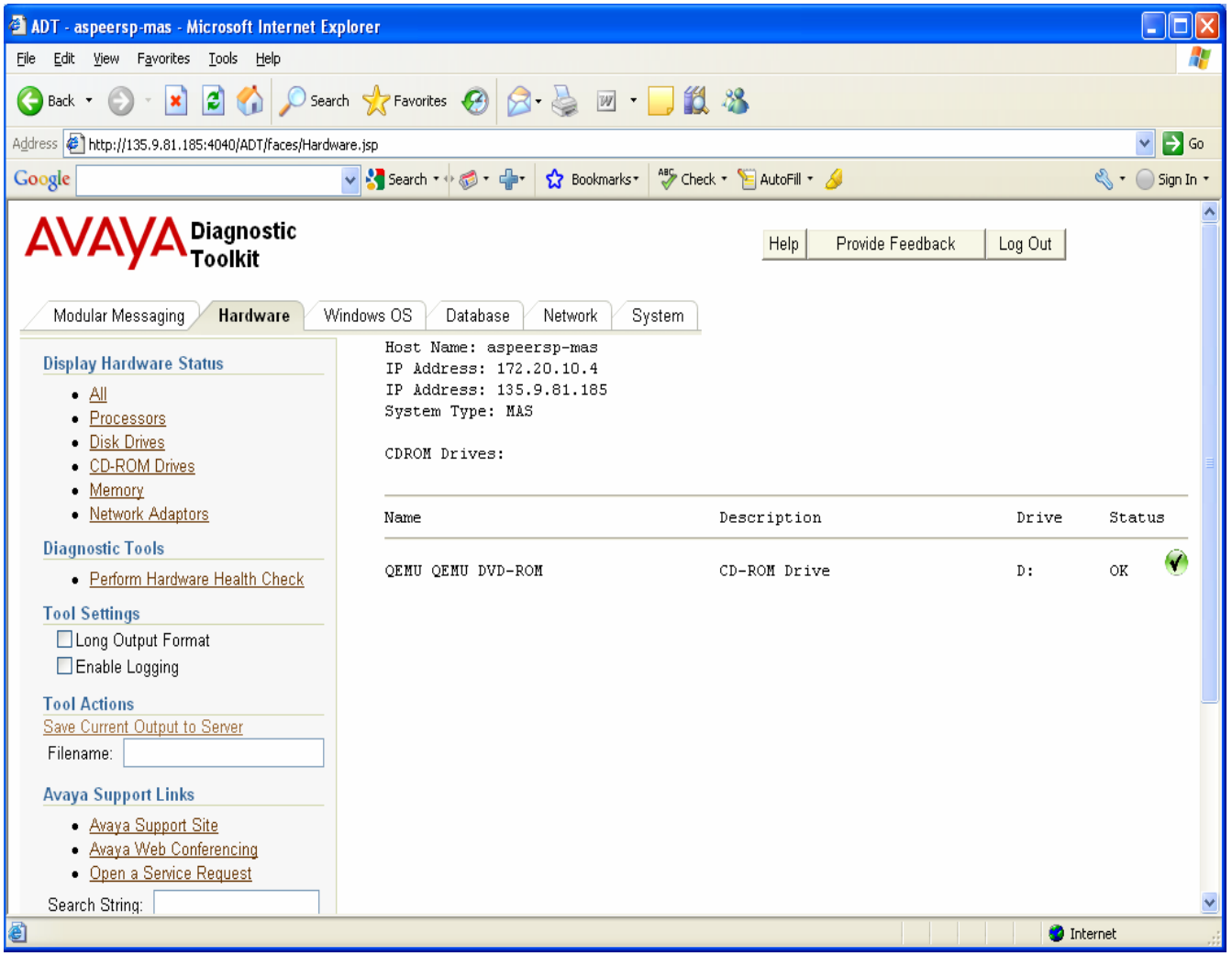
```
Disk Drives:

Status: OK
```

```
SystemName: FLR5LABMAS
SCSIBus: 0
Partitions: 1
MediaType: Fixed hard disk media
TracksPerCylinder: 255
Signature: -1407277161
SCSIPort: 0
Description: Disk drive
SectorsPerTrack: 63
TotalHeads: 255
SCSITargetId: 0
Name: \\.\PHYSICALDRIVE0
Index: 0
DeviceID: \\.\PHYSICALDRIVE0
PNPDeviceID:
IDE\DISKHDS728080PLAT20_____________________________PF2OA2AA\5&714B446&0&0.
0.0
MediaLoaded: TRUE
SCSILogicalUnit: 0
Manufacturer: (Standard disk drives)
TotalSectors: 160826715
Model: HDS728080PLAT20
TotalTracks: 2552805
BytesPerSector: 512
Size: 82343278080
TotalCylinders: 10011
ConfigManagerErrorCode: 0
InterfaceType: IDE
ConfigManagerUserConfig: FALSE
```

The disk drive information is retrieved using the windows "wmic diskdrive" command and parsing the output.

2.2.1.3 CD-ROM Drives

The list of configured CD-ROM drives on the MAS host can be displayed by selecting the "CD-ROM Drives" option in the "Hardware" tab. The following image shows the output for the tool.



The long output version of this tool displays all the fields for each CD-ROM drive. The following is an example of the data that is displayed in the long output version of this tool:

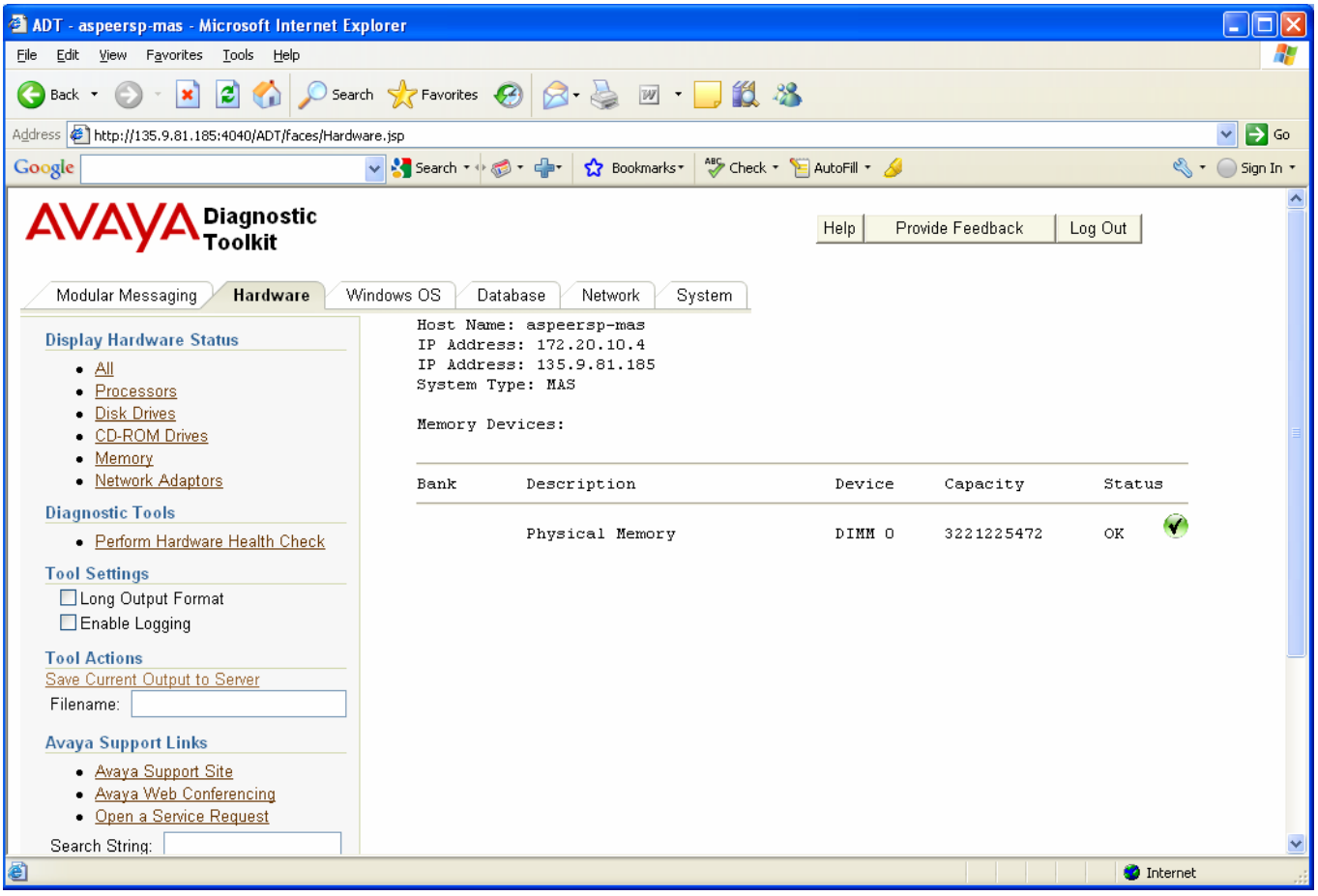
```
CDROM Drives:

SystemName: FLR5LABMAS
Status: OK
DeviceID: IDE\CDROMSONY_DVD-
ROM_DDU1615_____GYS4____\5&714B446&0&0.1.0
SCSIBus: 0
PNPDeviceID: IDE\CDROMSONY_DVD-
ROM_DDU1615_____GYS4____\5&714B446&0&0.1.0
SCSILogicalUnit: 0
MediaLoaded: FALSE
Manufacturer: (Standard CD-ROM drives)
MediaType: CD-ROM
Availability: 3
SCSIPort: 0
Description: CD-ROM Drive
SCSITargetId: 1
ConfigManagerErrorCode: 0
```

```
ConfigManagerUserConfig: FALSE
Drive: D:
Name: SONY DVD-ROM DDU1615
Id: D:
```

The CD-ROM drive information is retrieved using the windows “wmic cdrom” command and parsing the output.

2.2.1.4 Memory

The list of configured memory banks on the MAS host can be displayed by selecting the “Memory” option in the “Hardware” tab. The following image shows the output for the tool.



The long output version of this tool displays all the fields for each memory bank. The following is an example of the data that is displayed in the long output version of this tool:

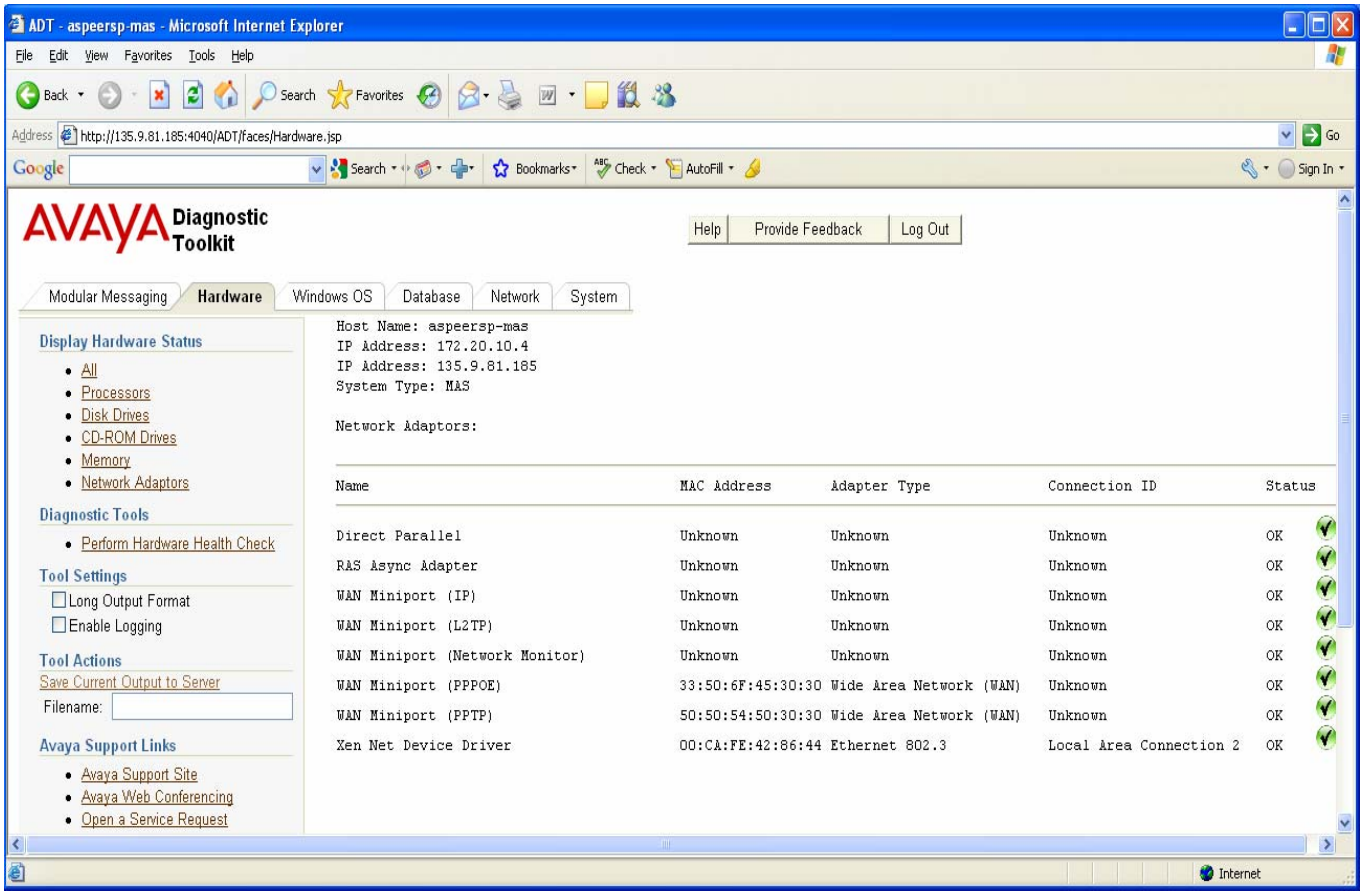
```
Memory Devices:

Capacity: 1073741824
FormFactor: 8
TypeDetail: 128
BankLabel: BANK0
InterleavePosition: 1
```

```
TotalWidth: 72
Tag: Physical Memory 0
DataWidth: 72
PositionInRow: 1
MemoryType: 0
Description: Physical Memory
Speed: 400
DeviceLocator: DIMM 1A
Name: Physical Memory
InterleaveDataDepth: 0
```

The memory information is retrieved using the windows "wmic memorychip" command and parsing the output.

2.2.1.5 Network Adaptors

The list of configured network adaptors on the MAS host can be displayed by selecting the "Network Adaptor" option in the "Hardware" tab. The following image shows the output for the tool.



The long output version of this tool displays all the fields for each network adaptor. The following is an example of the data that is displayed in the long output version of this tool:

```
Network Adaptors:

Index: 6
MaxNumberControlled: 0
DeviceID: 6
PNPDeviceID: ROOT\MS_PTIMINIPORT\0000
ProductName: Direct Parallel
Installed: TRUE
Manufacturer: Microsoft
Availability: 3
PowerManagementSupported: FALSE
TimeOfLastReset: 20090206145142.715454-420
Description: Direct Parallel
ConfigManagerErrorCode: 0
ServiceName: Raspti
ConfigManagerUserConfig: FALSE
Name: Direct Parallel
```

The network adaptor information is retrieved using the windows "wmic nic" command and parsing the output.

2.2.1.6 All

The "All" option in the "Display Hardware Status" menu section will run all hardware status tools in the above sections and display the output.

2.2.2 Diagnostic Tools

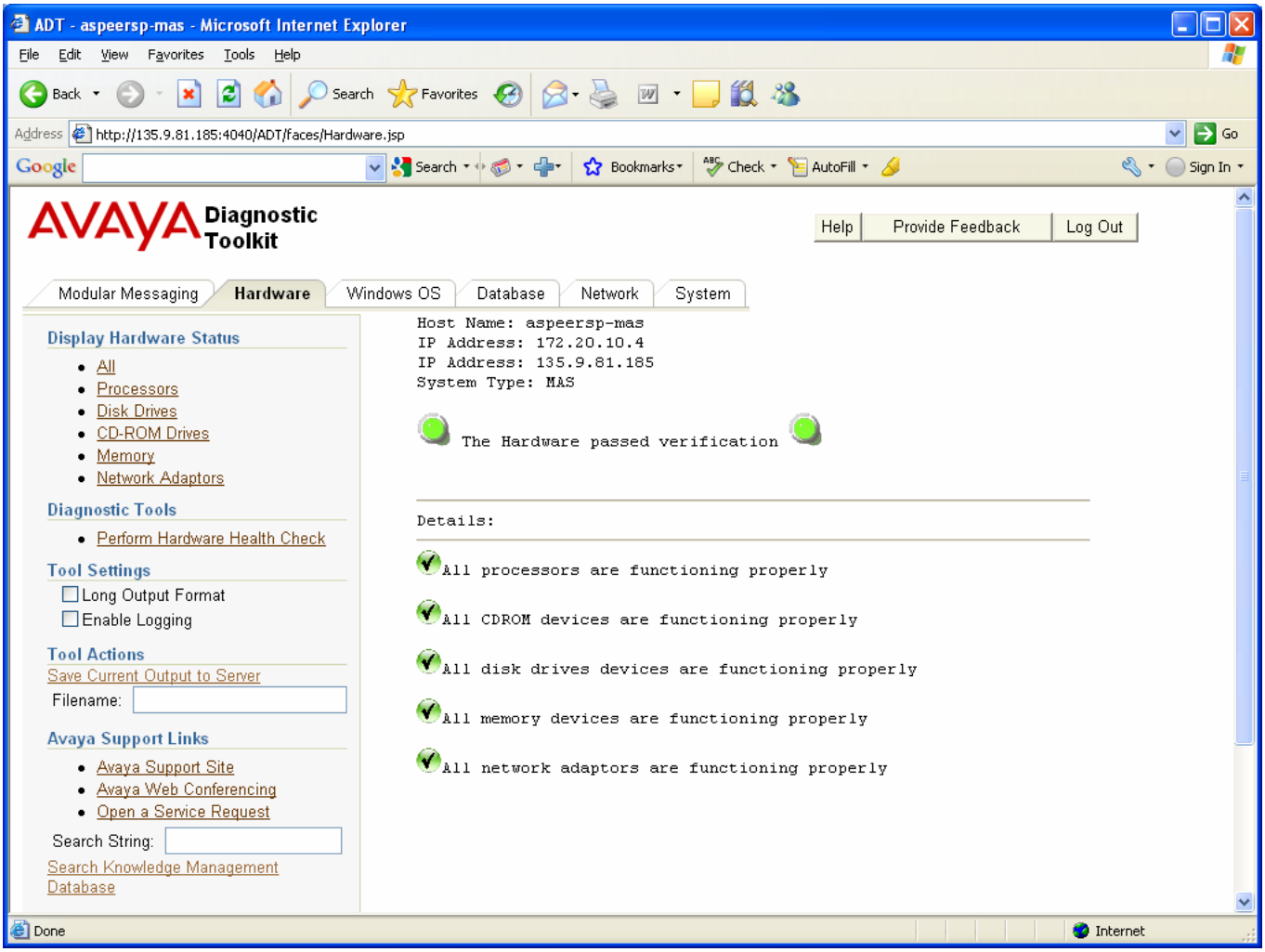
This section discusses the ADT Hardware Diagnostic tools available on the Modular Messaging MAS host.

2.2.2.1 Perform Hardware Health Check

This tool will perform a health check on the MAS host hardware. The following items are verified by this tool.

- All processor devices are functioning properly
- All disk drive devices are functioning properly
- All CD-ROM devices are functioning properly
- All memory devices are functioning properly
- All network adaptor devices are functioning properly

The following image shows an example run of the Hardware Health Check tool.



2.2.3 Hardware Support Links

This section discusses the various hardware support links available within the ADT.

2.3.2.1 Dell Support Link

This link opens a new browser window to the Dell support site.

2.3.2.2 Hewlett Packard Support Link

This link opens a new browser window to the Hewlett Packard support site.

2.3.2.3 IBM Support Link

This link opens a new browser window to the IBM support site.

CHAPTER 3 – OPERATING SYSTEM DIAGNOSTIC TOOLS

3.1 Chapter Goal

The goal of this chapter is to learn how to use the ADT to view current Operating System configuration and status information and to check the Modular Messaging MAS system for Operating System problems.

3.2 Operating System Diagnostic Tools

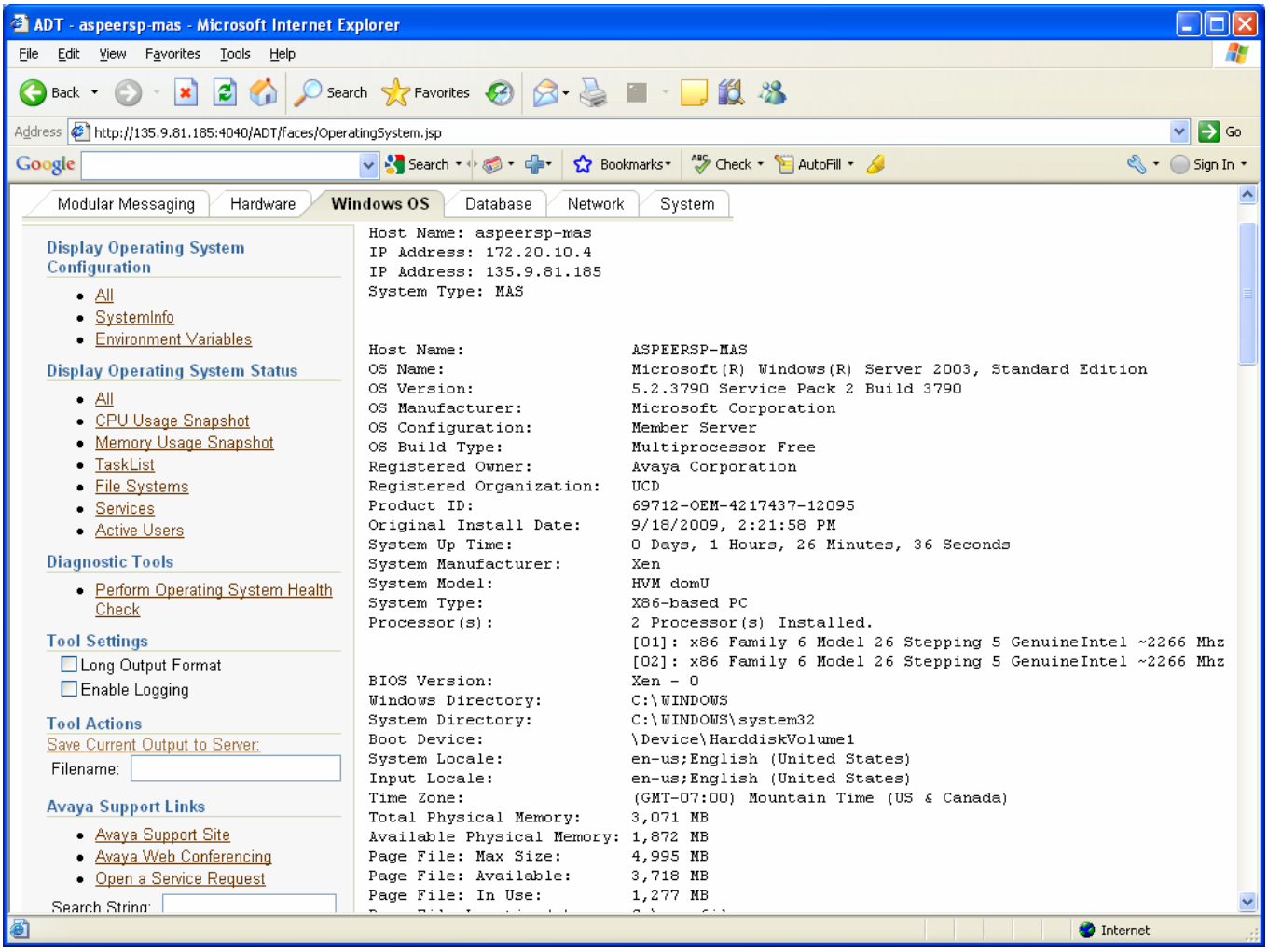
This section discusses the various Operating System diagnostic tools provided by the ADT.

3.2.1 Display Operating System Configuration

This section discusses the ADT tools available to view the Operating System configuration on a Modular Messaging MAS host.

3.2.1.1 SystemInfo

The "SystemInfo" option will display various operating system information on the MAS host system. The following is example output from the tool.

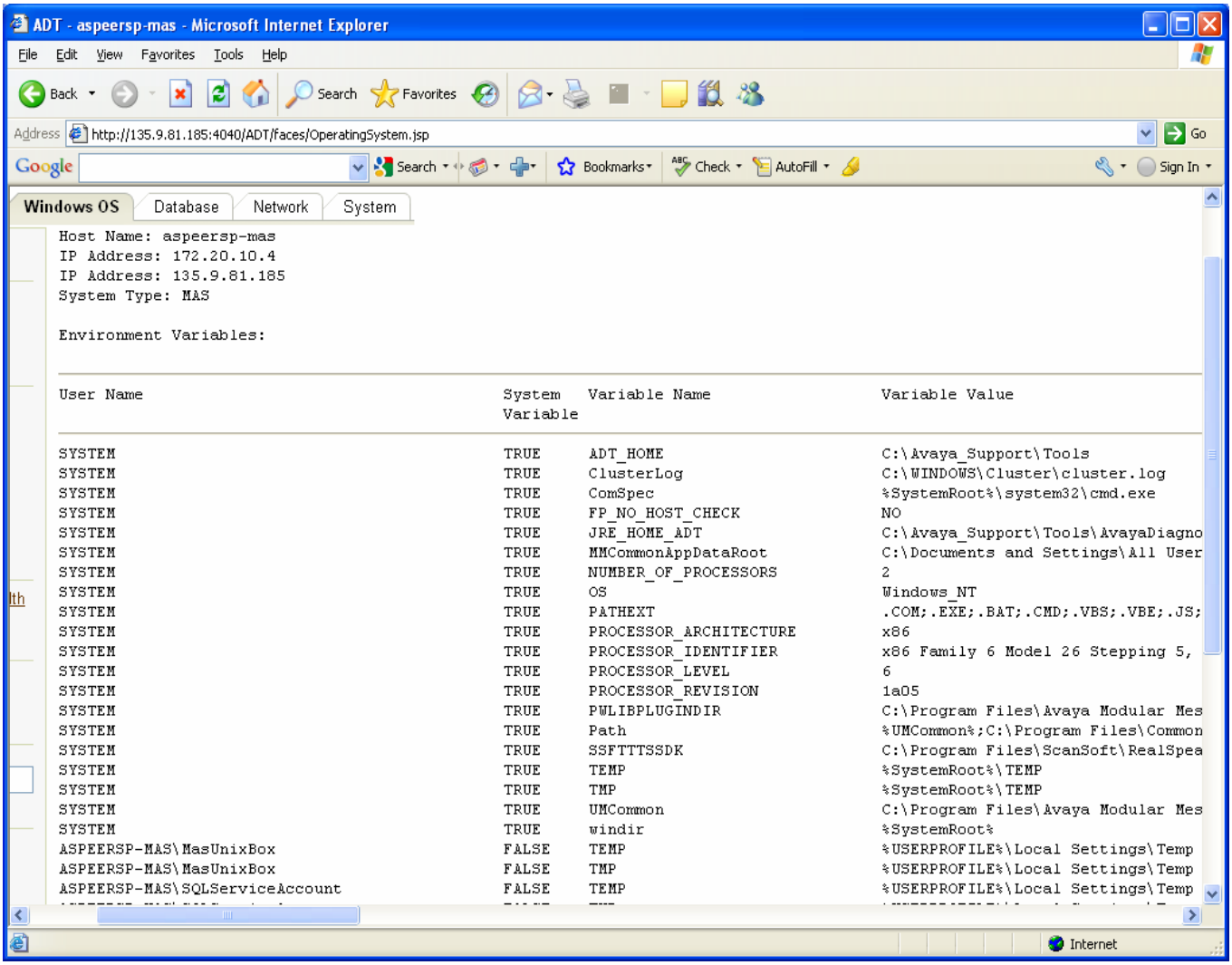


The System Information data is gathered using the windows "systemInfo" command. In addition to the system data returned from the 'systeminfo' command, this command also displays the Data Execution Prevention (DEP) and Hyperthreading values. The DEP value is obtained from the boot.ini file while the hyperthreading value is obtained by looking at the number of processors. If the number of processors is greater than 1, hyperthreading is enabled. The following is an example of the DEP and hyperthreading values:

```
Data Execution
Prevention:       Off (OptIn)
HyperThreading:   Disabled
```

3.2.1.2 Environment Variables

The "Environment Variables" option will display the list of environment variables for each user on the MAS host system. The user name, system variable flag, variable name, and variable value fields are displayed for each environment variable in the list. The following is example output from the tool.



The environment variables information is retrieved using the windows “wmic environment” command and parsing the output.

3.2.1.3 All

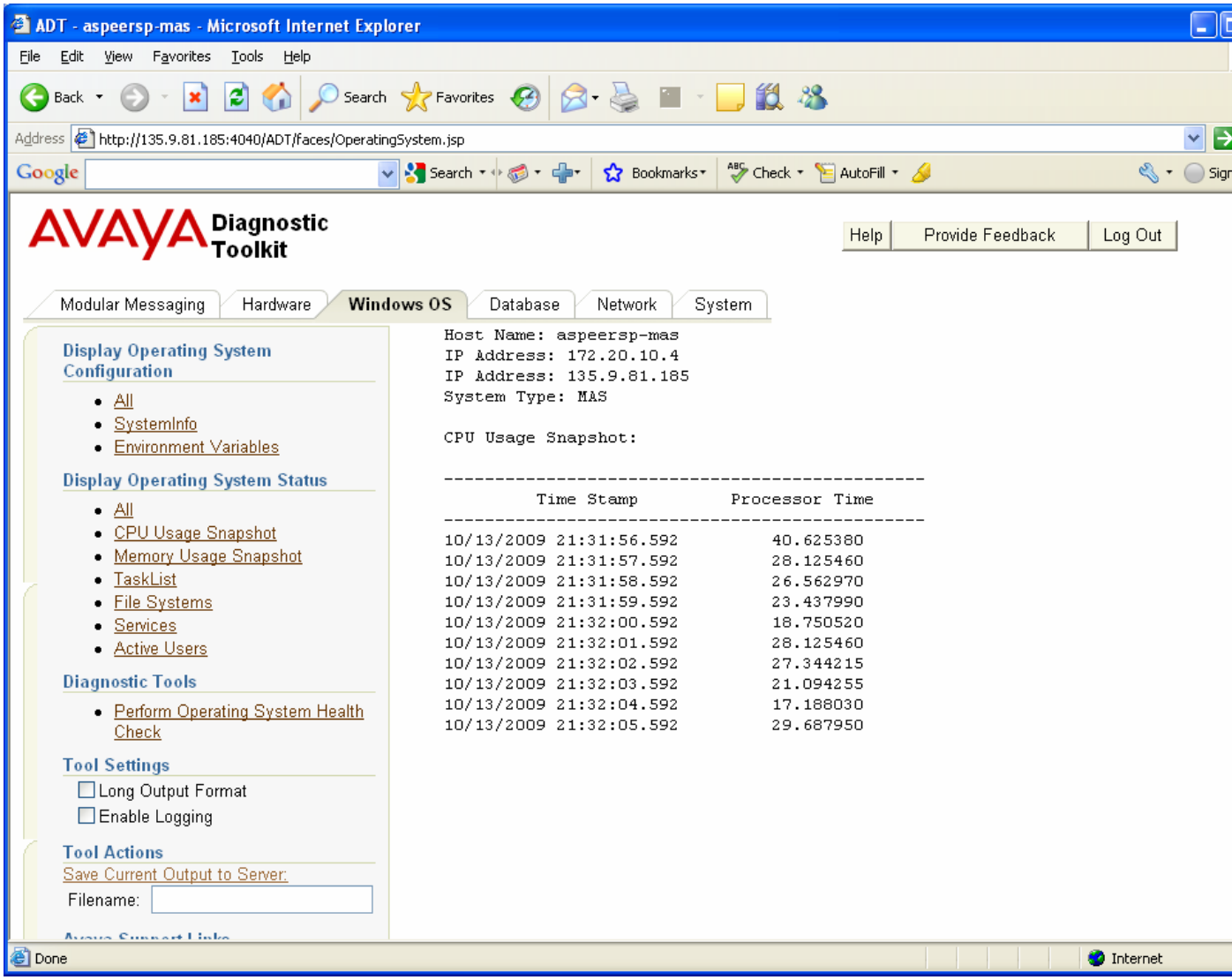
This menu item will run all of the Operating System Configuration tools in the above sections and display the output.

3.2.2 Display Operating System Status

This section discusses the ADT tools available to view the Operating System status on an Modular Messaging MAS host.

3.2.2.1 CPU Usage Snapshot

The “CPU Snapshot” option will take a 10 second snapshot of the total processor utilization on the MAS host system and display the results. Each CPU snapshot will display the timestamp that the snapshot was taken and the current percent of processor utilization (all processors) during that snapshot. The following is example output from the tool.

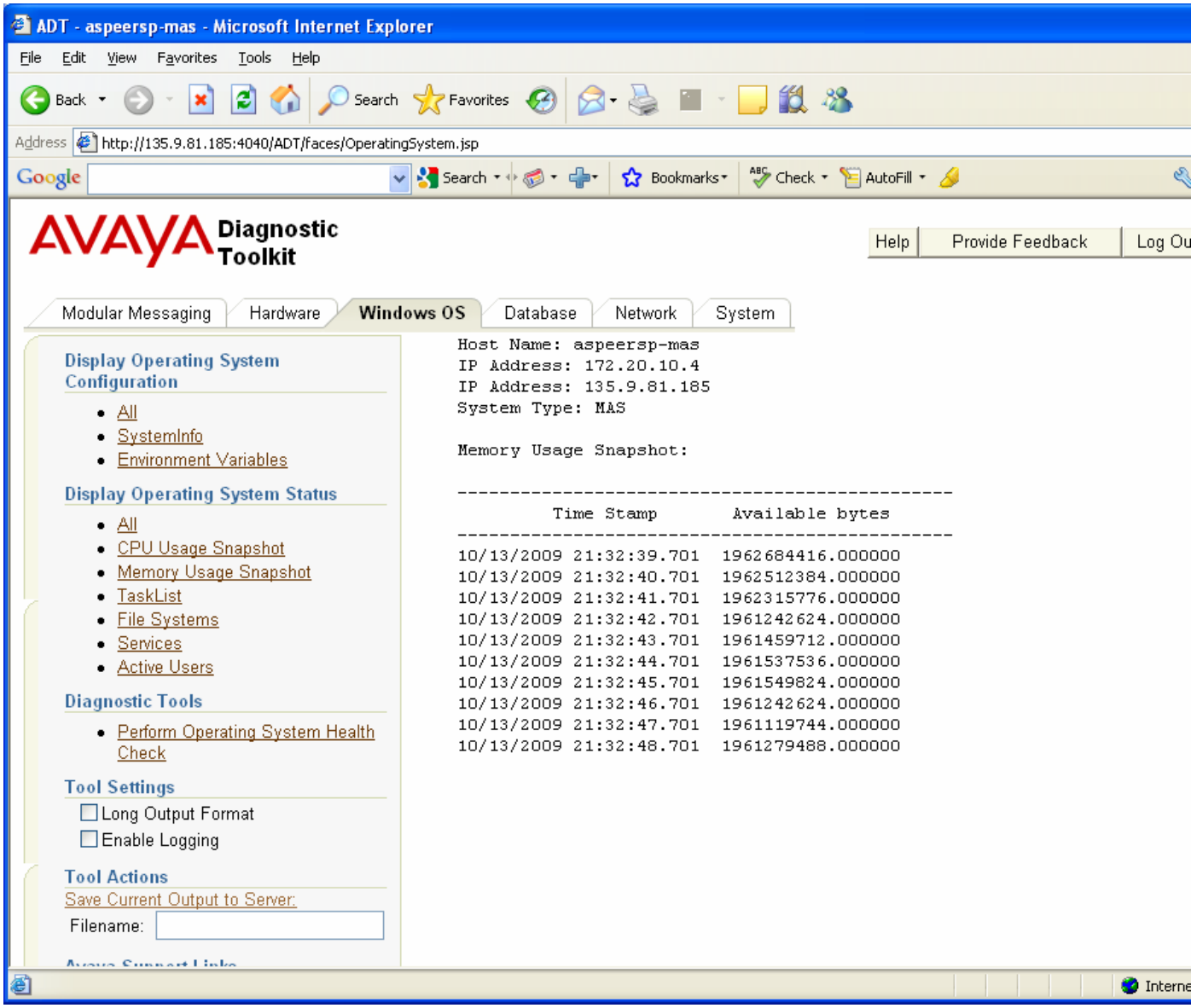


The CPU Usage Snapshot information is retrieved using the windows “typeperf "\processor(_total)\% processor time" -sc 10” command.

3.2.2.2 Memory Usage Snapshot

The “Memory Usage Snapshot” option will take a 10 second snapshot of the available memory bytes on the MAS host system and display the results. Each memory snapshot will display the

timestamp that the snapshot was taken and the current number available memeory bytes during that snapshot. The following is example output from the tool.

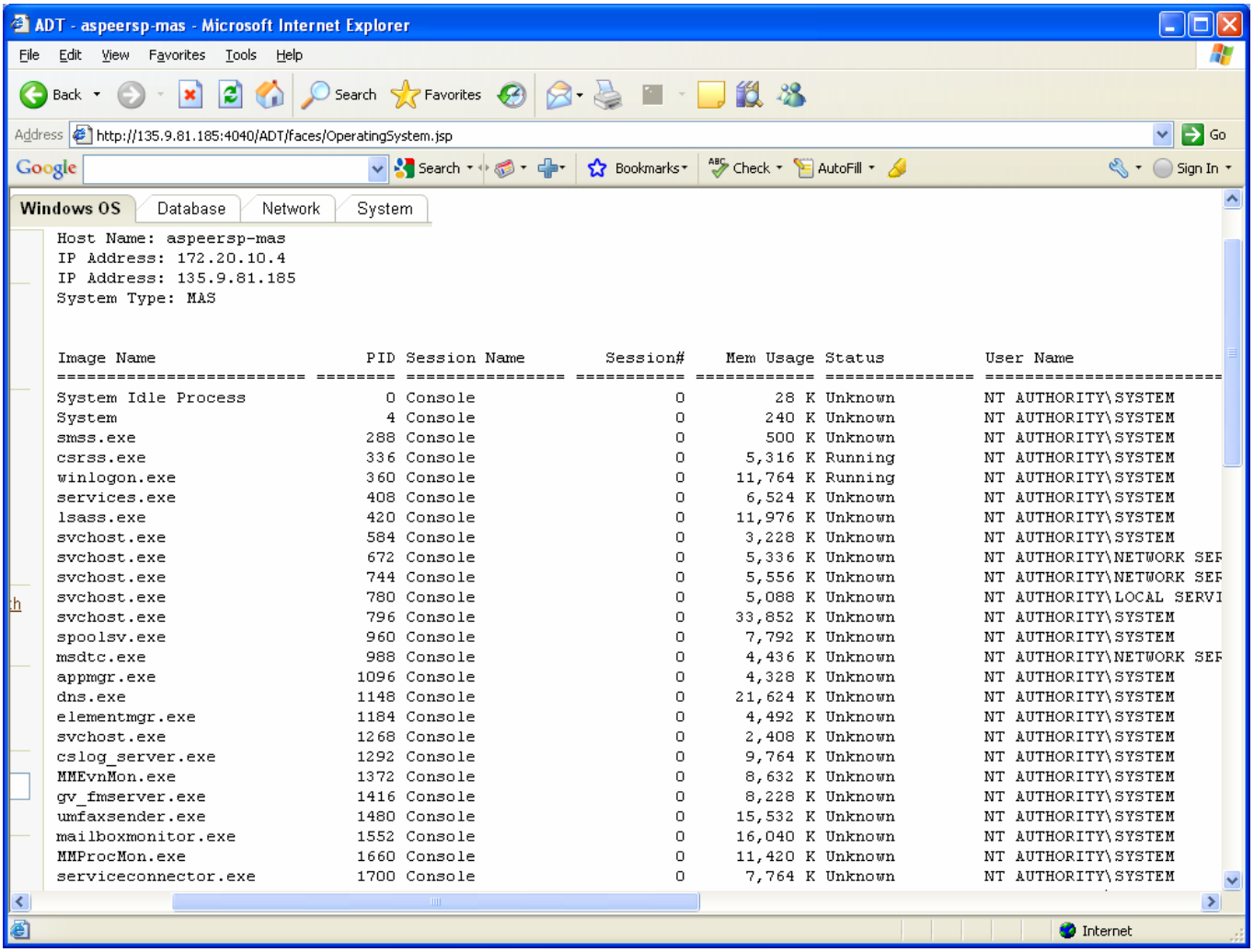


The Memory Usage Snapshotinformation is retrieved using the windows “typeperf "\Memory\Available bytes\" -sc 10” command.

3.2.2.3 Task List

The “Task List” option will display the list of windows tasks running on the MAS host system. The image name, PID, session name, session number, memory usage, status user name, cpu time, and

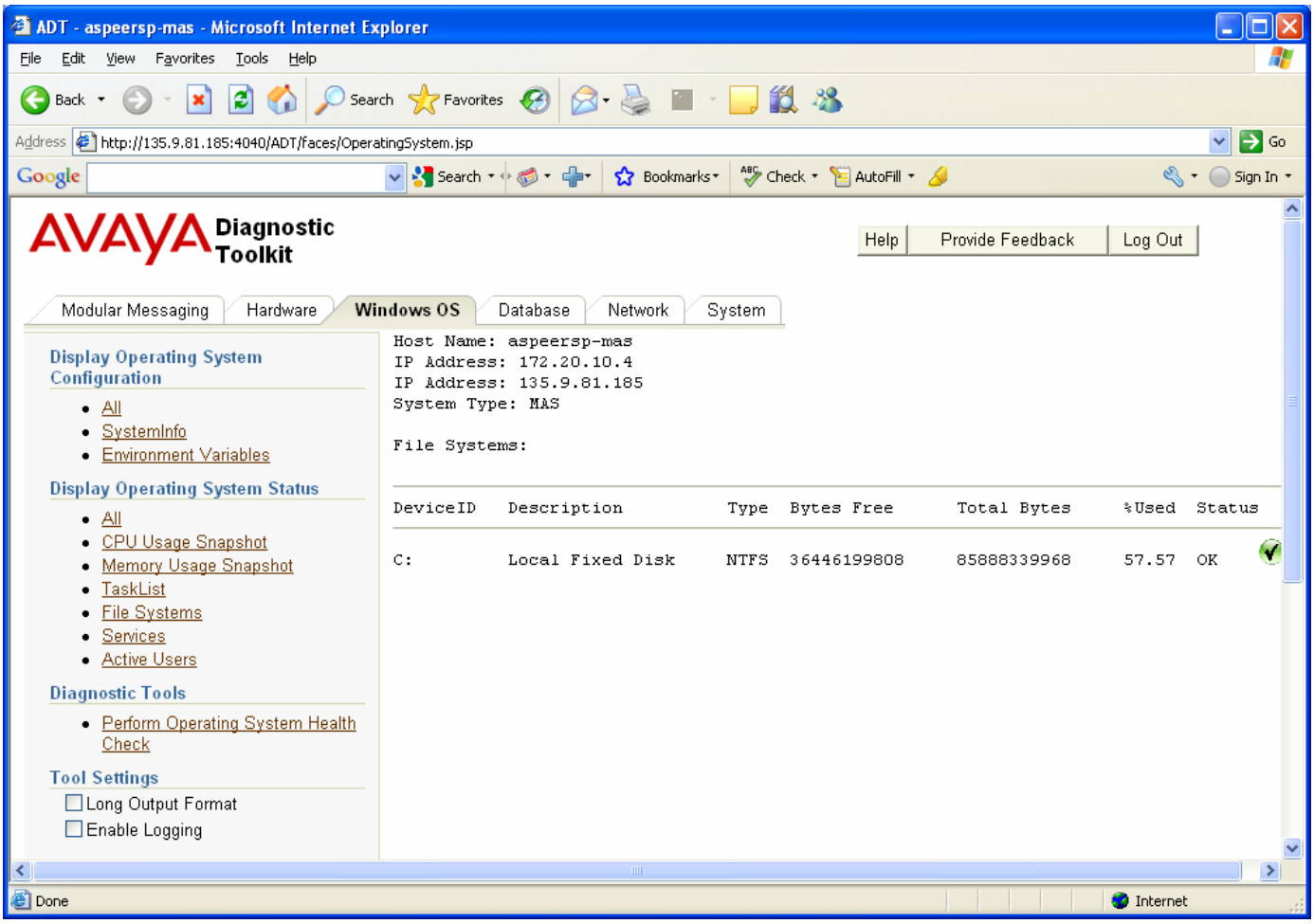
window title fields are displayed for each task in the list. The following is example output from the tool.



The environment variables information is retrieved using the windows “tasklist /V” command.

3.2.2.4 File Systems

The “File Systems” option will display the list of file systems on the MAS host system. The device ID, description, type, bytes free, total bytes, percent used, status, and icon status indicator fields are displayed for each file system in the list. The following is example output from the tool.



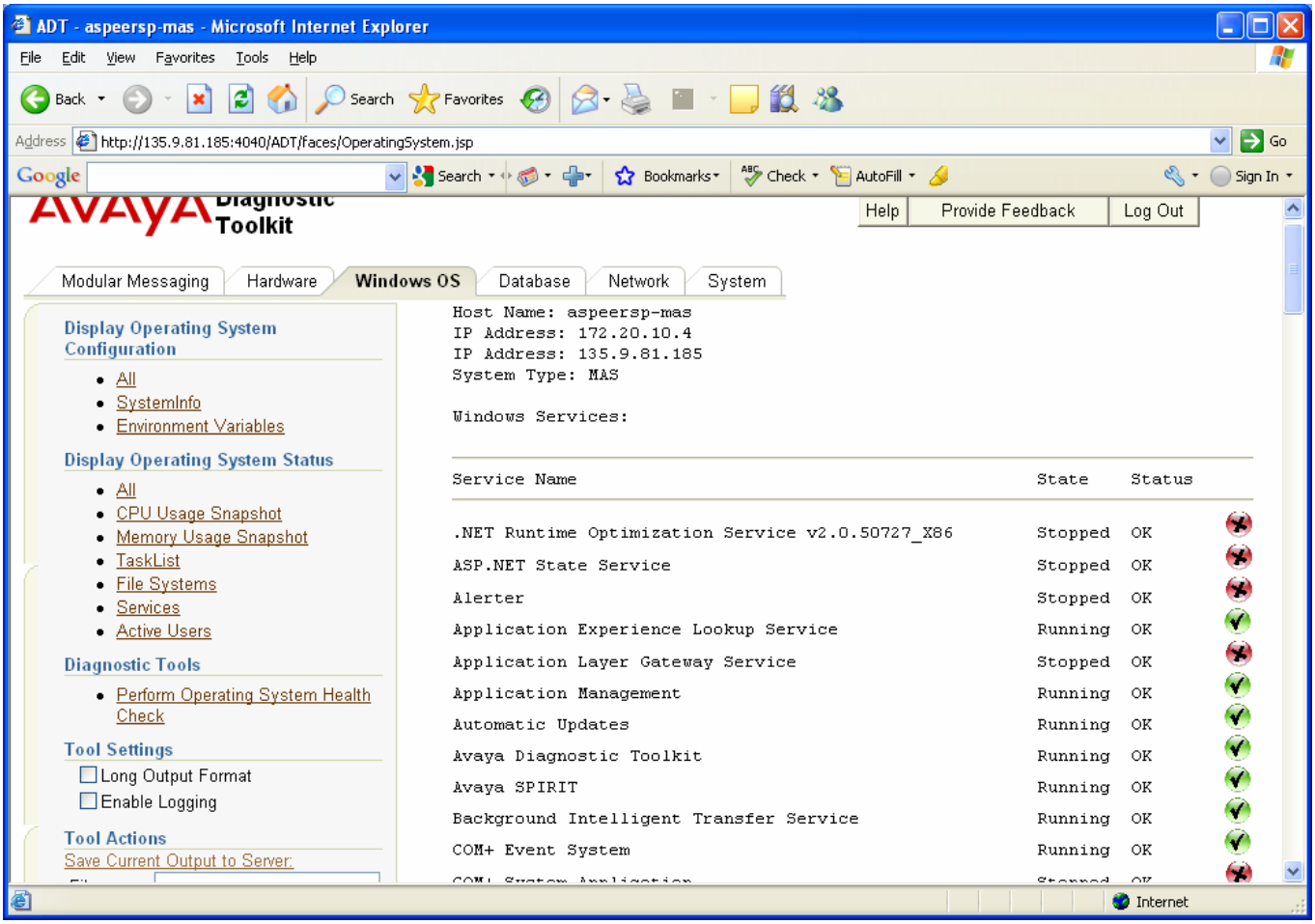
The long output version of this tool displays all the fields for each file system. The following is an example of the data that is displayed in the long output version of this tool.

```
File Systems:

DriveType: 3
FreeSpace: 40209809408
DeviceID: C:
MaximumComponentLength: 255
SupportsFileBasedCompression: TRUE
SupportsDiskQuotas: TRUE
Compressed: FALSE
QuotasRebuilding: FALSE
MediaType: 12
VolumeSerialNumber: E49A514F
Description: Local Fixed Disk
FileSystem: NTFS
Size: 82335019008
QuotasIncomplete: TRUE
Name: C:
VolumeName:
Caption: C:
QuotasDisabled: TRUE
```

The file system information is retrieved using the windows “wmic logicaldisk” command and parsing the output.

3.2.2.5 Services

The “Services” option will display the list of windowe services running on the MAS host system. The service name, state, status, and icon status indicator fields are displayed for each service in the list. The following is example output from the tool.

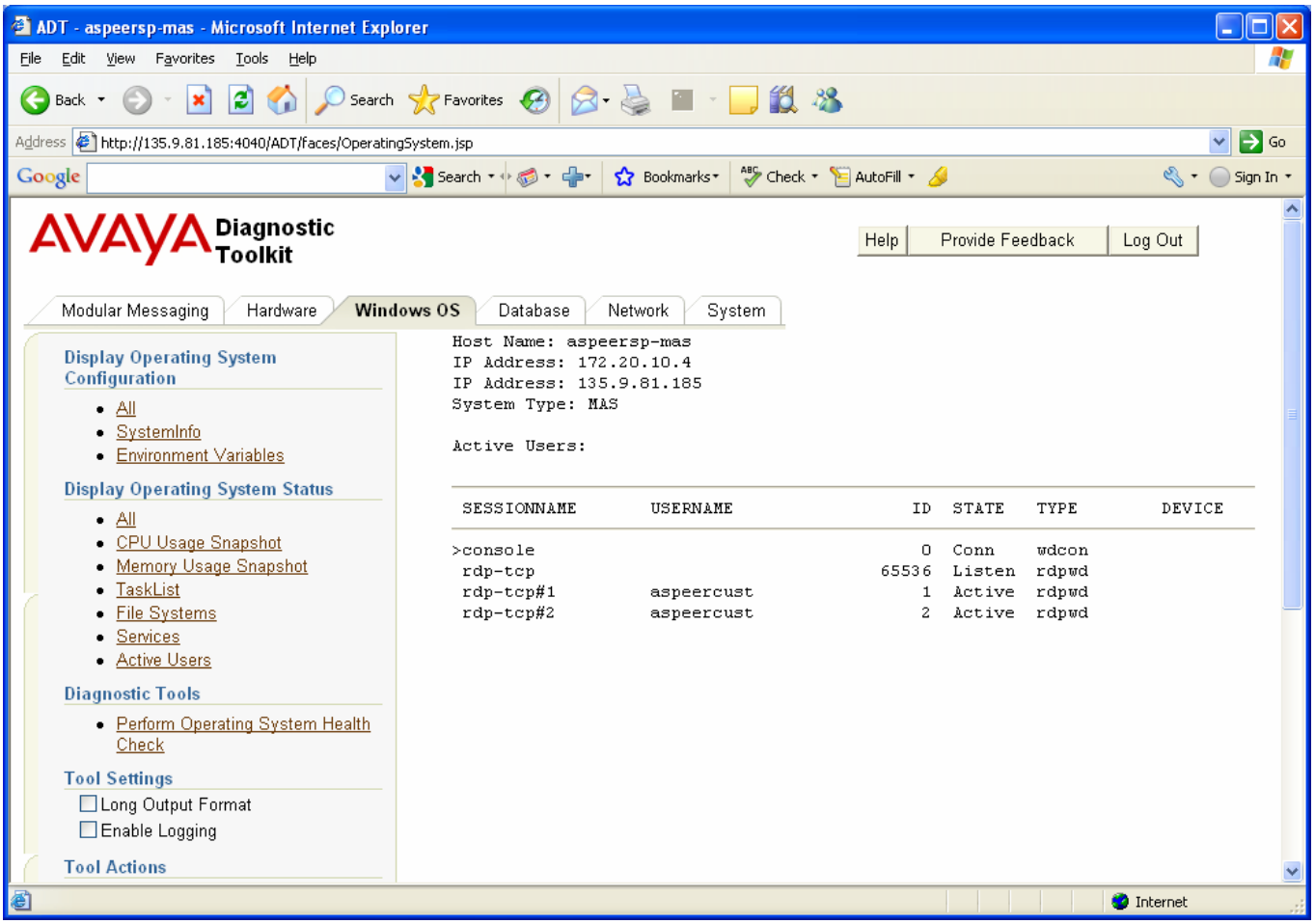


The long output version of this tool also displays the process ID, start mode, path, and description fields for each service.

The service information is retrieved using the windows “wmic service” command and parsing the output.

3.2.2.6 Active Users

The "Active Users" option will display the list of active users running on the MAS host system. The session name, username, ID, state, type, and device for each active user in the list. The following is example output from the tool.



The list of active users is retrieved using the windows "Qwinsta" command.

3.2.2.7 All

This menu item will run all of the Operating System Status tools described in the previous subsections.

3.2.3 Diagnostic Tools

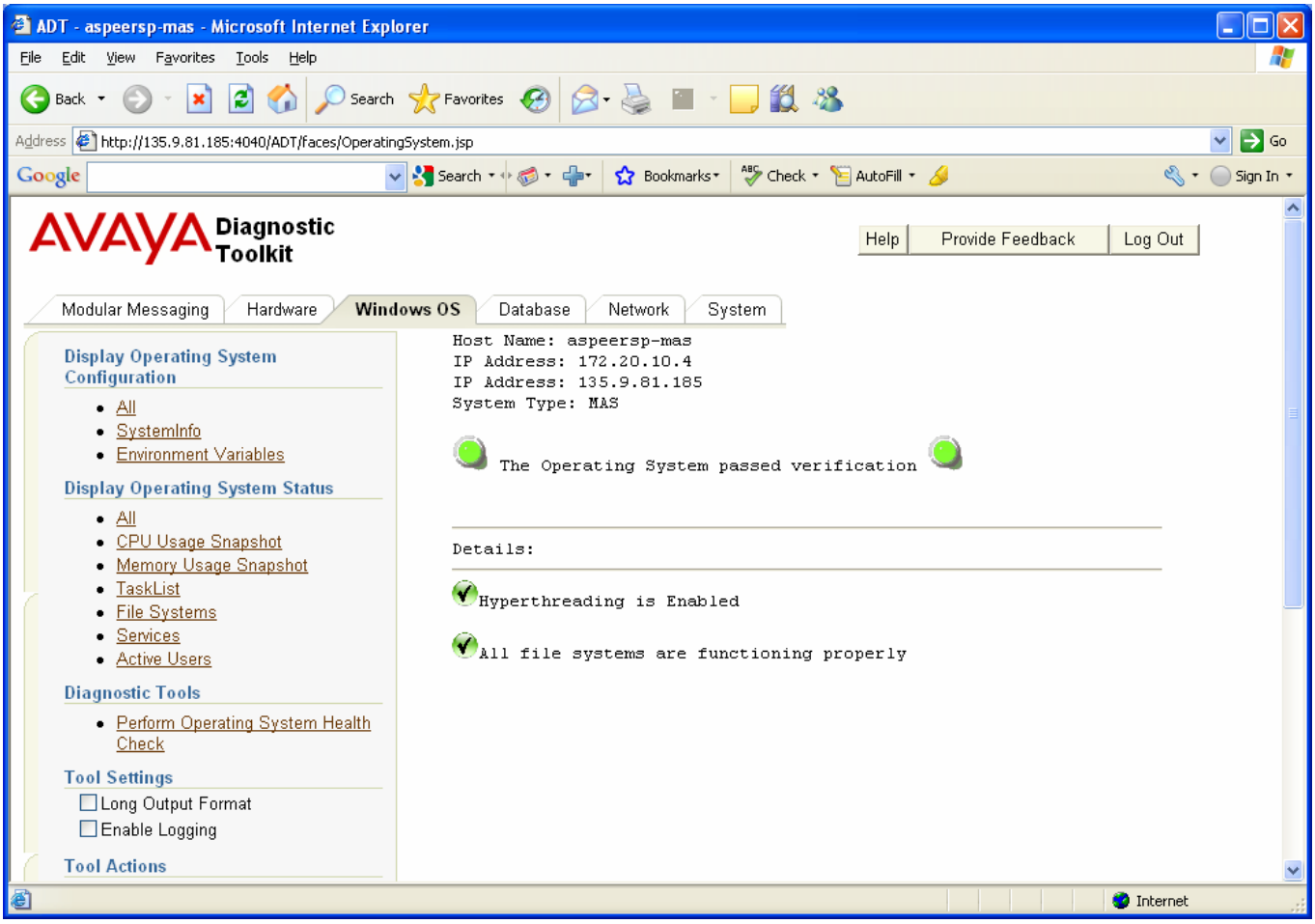
This section discusses the ADT Operating System Diagnostic tools available on the Modular Messaging MAS host.

3.2.3.1 Perform Operating System Health Check

This tool will perform a health check on the Windows Operating System running on the MAS host. The following items are verified by this tool.

- That all file systems are operational and less than 80% used

The following image shows an example run of the Windows Operating System Health Check tool.



3.2.4 Operating System Support Links

This section discusses the various operating system support links available within the ADT.

3.2.4.1 Microsoft Windows Support Link

This link opens a new browser window to the Microsoft Windows support site.

CHAPTER 4 – DATABASE DIAGNOSTIC TOOLS

4.1 Chapter Goal

The goal of this chapter is to learn how to use the ADT to view current Database configuration and status information and to check the Modular Messaging MAS system for common database problems.

4.2 Database Diagnostic Tools

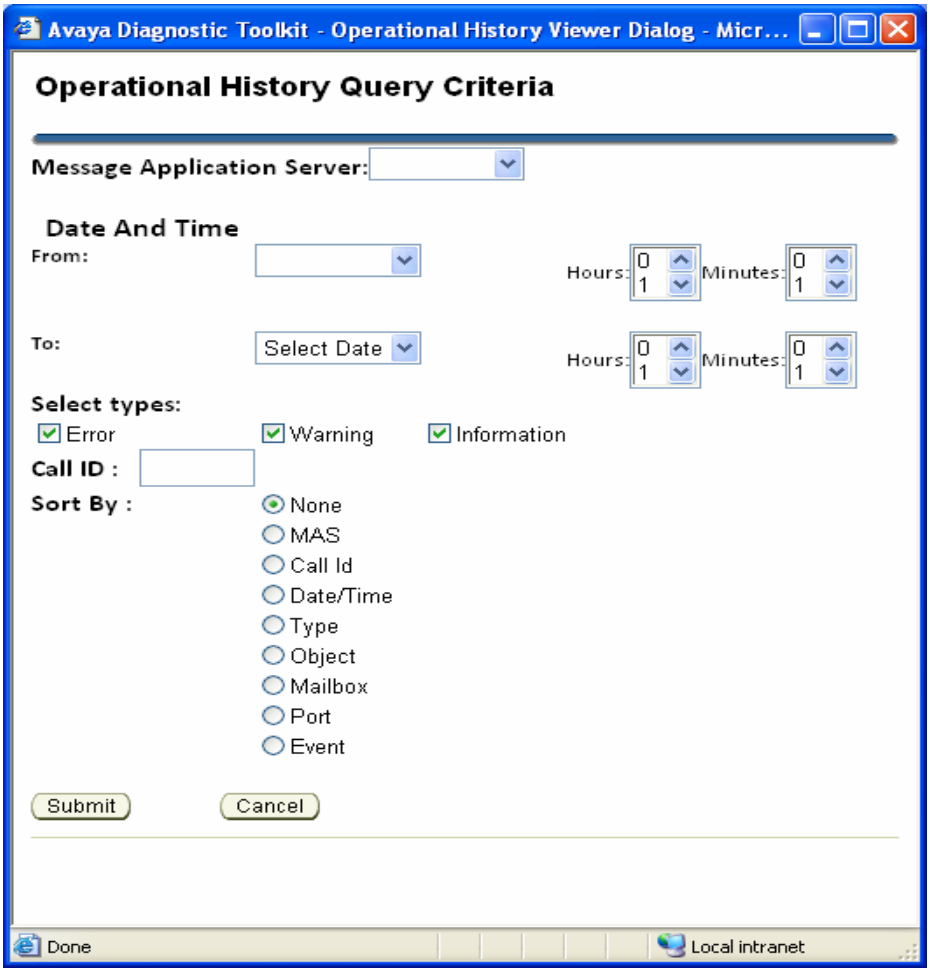
This section discusses the various database diagnostic tools provided by the ADT.

4.2.1 Display Database Status

This section discusses the ADT tools available to view the Database status on an Modular Messaging MAS system.

4.2.1.1 Operational History Query

The "Operational History Query" tool prompts the user for criteria used to query the Modular Messaging MAS Operational History database and displays the specified event records to the screen. The following image shows the pop which is display upon clicking on the "Operational History Query" tool.



Message Aplication Server dropdown consists of list of MAS.

From date field is for, from which date should the results be displayed.

From hours and minutes fields are from what time the results should be displayed.

To date field is for, unitl which date should the results be displayed.

To hours and minutes fields are until what time the results should be displayed.

Call Id is an optional field and it should be a positive integer.

Sort by field is for,by what value should the results be ordered. Selecting none does not sort the results.

All the fields except “Call Id” are required. If any of the fields are not entered and submit button is clicked the following error message is shown.

From Date

The above values were not entered. Please try again!

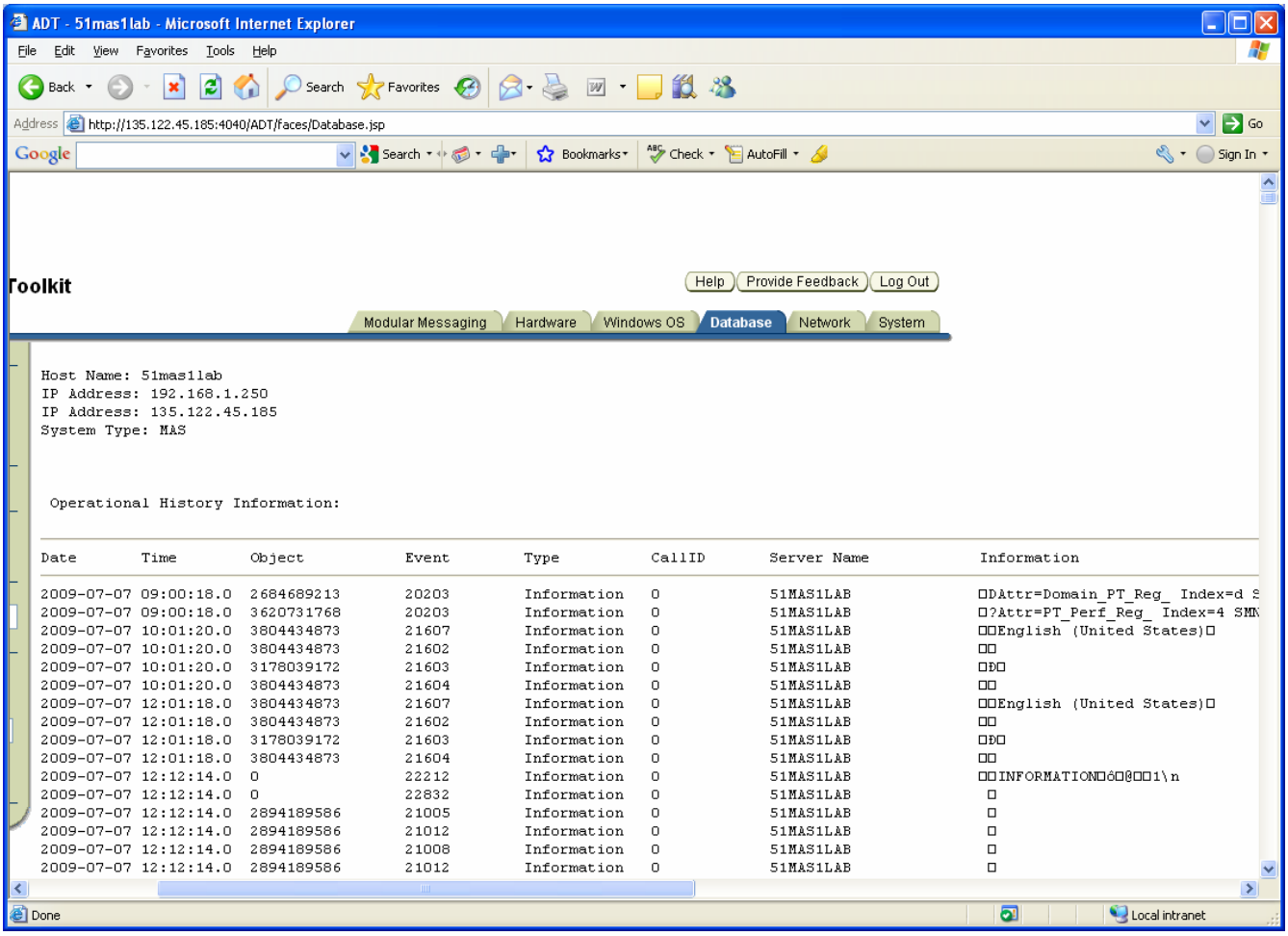
To timeStamp(combination of date, from hours and from minutes) , should always be greater then from timeStamp otherwsie the following error message is shown.

To TimeStamp should be greater then the From Timestamp. Please Try again!

If there are no results match with the given criteria, then the following error message will be displayed.

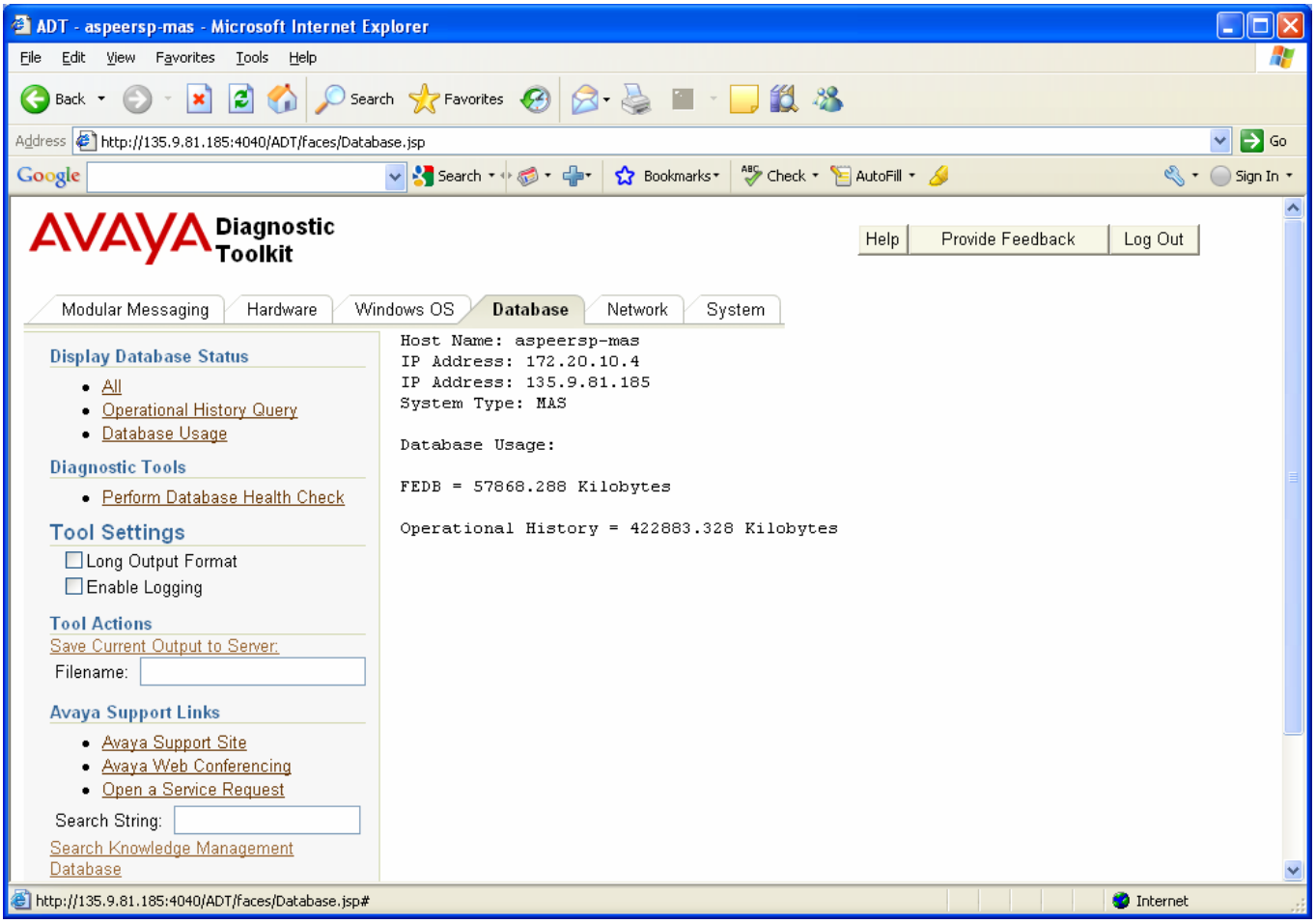
No Results Found with the given criteria!!

The following image shows the output of “Operational History query”.



4.2.1.3 Database Usage

The “Database Usage” tool is used to display the current disk usage in bytes for the FEDB and Operational History databases. The following image shows the output of this command.



The Database Usage information is obtained using the Java File object to obtain size information on these two database files

4.2.1.3 All

This menu item will run all of the ADT database status tools described in the previous subsections.

4.2.2 Database Diagnostic Tools

This section discusses the ADT Database Diagnostic tools available on the Modular Messaging MAS host.

4.2.2.1 Perform Database Health Check

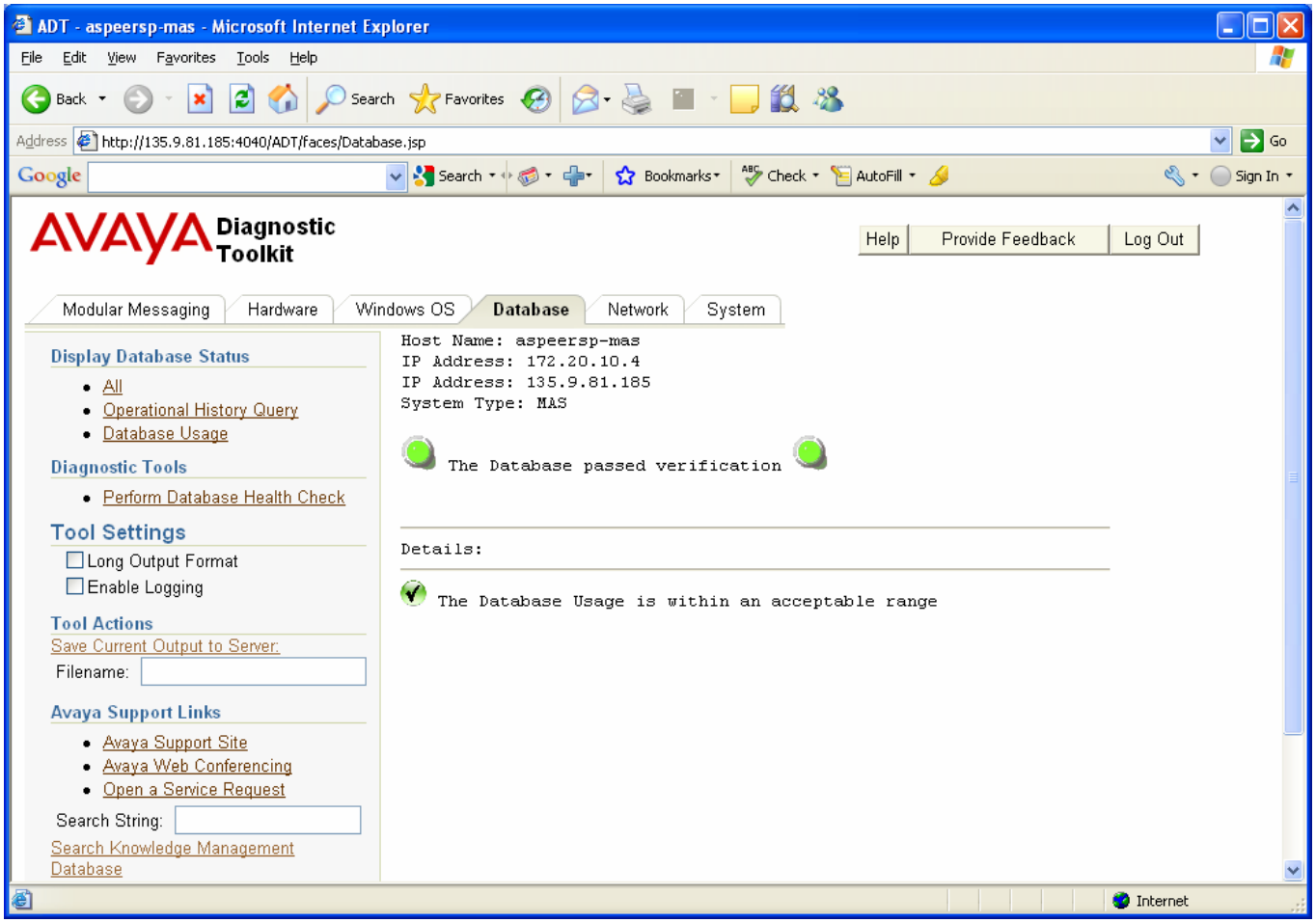
This tool will perform a health check on the MAS Database elements. The following items are verified by this tool.

- All database disk usage is below the predefined thresholds of:

  FEDB = 3,000,000 bytes (3 Megabytes)

  Operational History = 1,500,000,000 (1.5Gigabytes)

The following image shows an example run of the Database Health Check tool.



CHAPTER 5 – NETWORK DIAGNOSTIC TOOLS

5.1 Chapter Goal

The goal of this chapter is to learn how to use the ADT to view current Network configuration and status information and to check the system for common network problems.

5.2 Network Diagnostic Tools

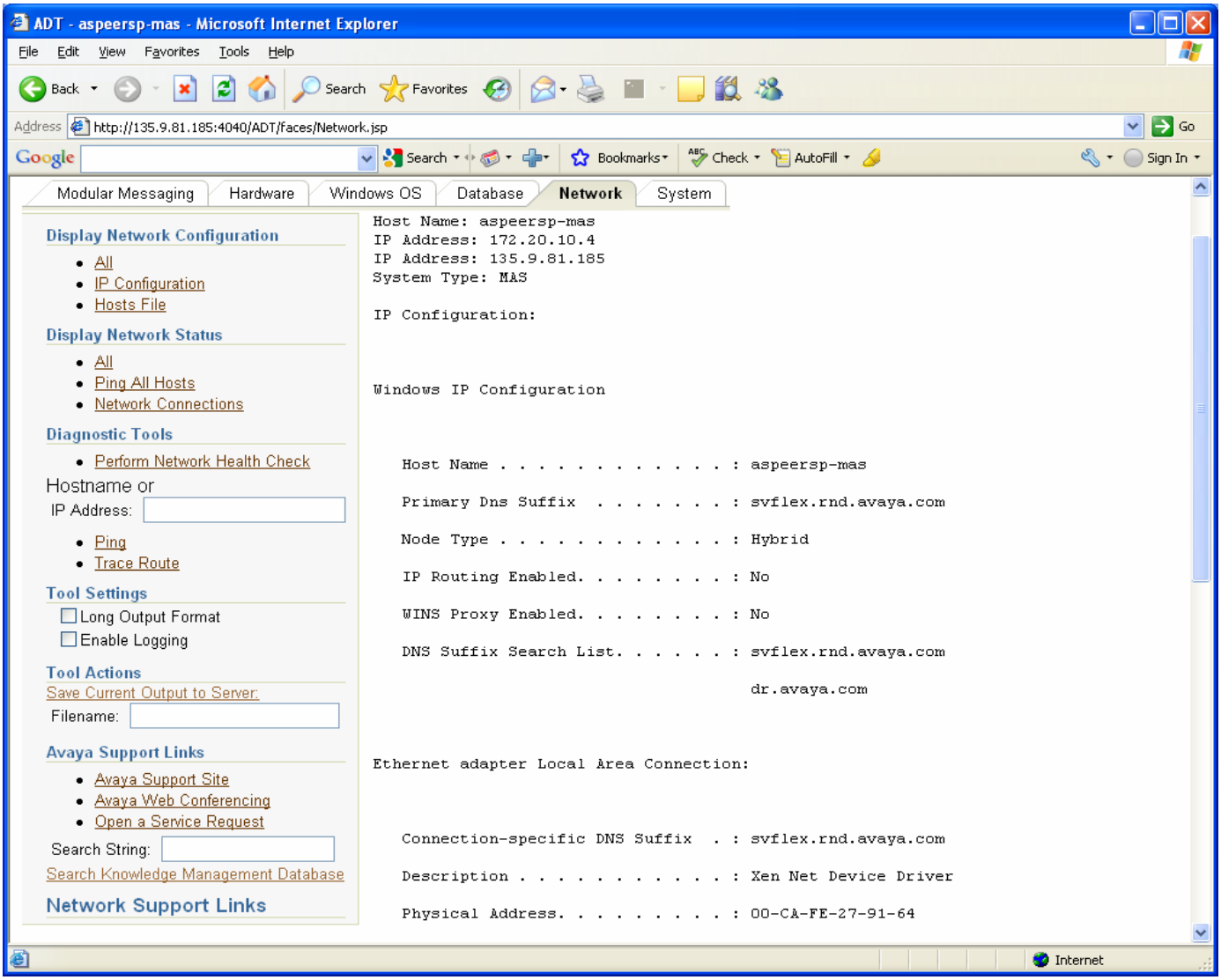
This section discusses the various network diagnostic tools provided by the ADT.

5.2.1 Display Network Configuration

This section discusses the ADT tools available to view the network configuration on an Modular Messaging MAS system.

5.2.1.1 IP Configuration

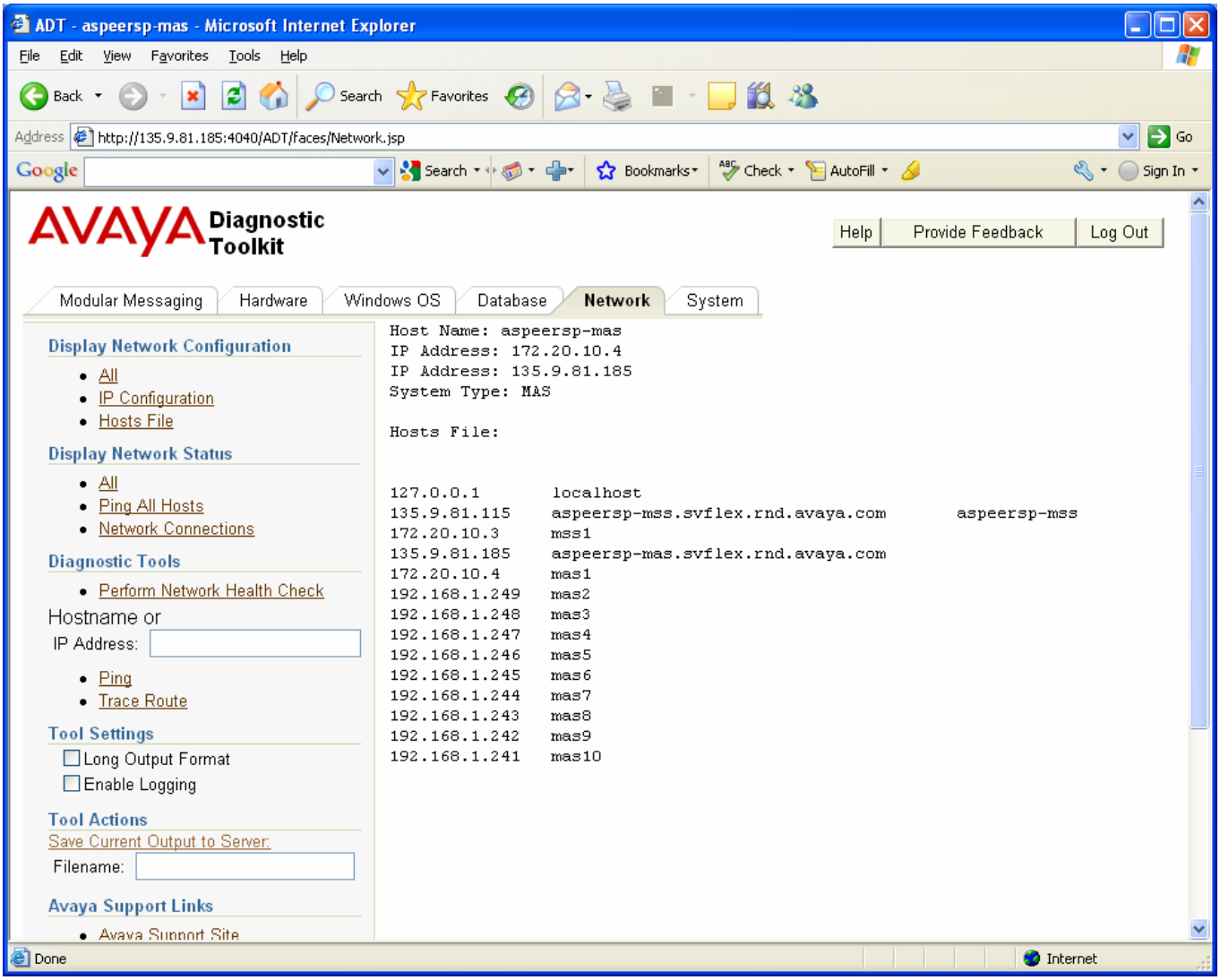
The “IP Configuration” tool can be used to display the IP network configuration of the MAS host. This IP network configuration consists of windows IP configuration attributes and a list of network adpters and their corresponding attributes. The following image shows the output of this command.



The IP Configuration information is obtained using the “ipconfig /all” command.

5.2.1.2 Hosts File

The “Hosts File” tool can be used to display the contents of the hosts file. The hosts file maps hostnames to IP Addresss so that hostnames can be used to route IP traffic to a host. The following image shows the output of this command.



The hosts file that is displayed is located in the windows root directory in system32\drivers\etc\hosts

5.2.1.3 All

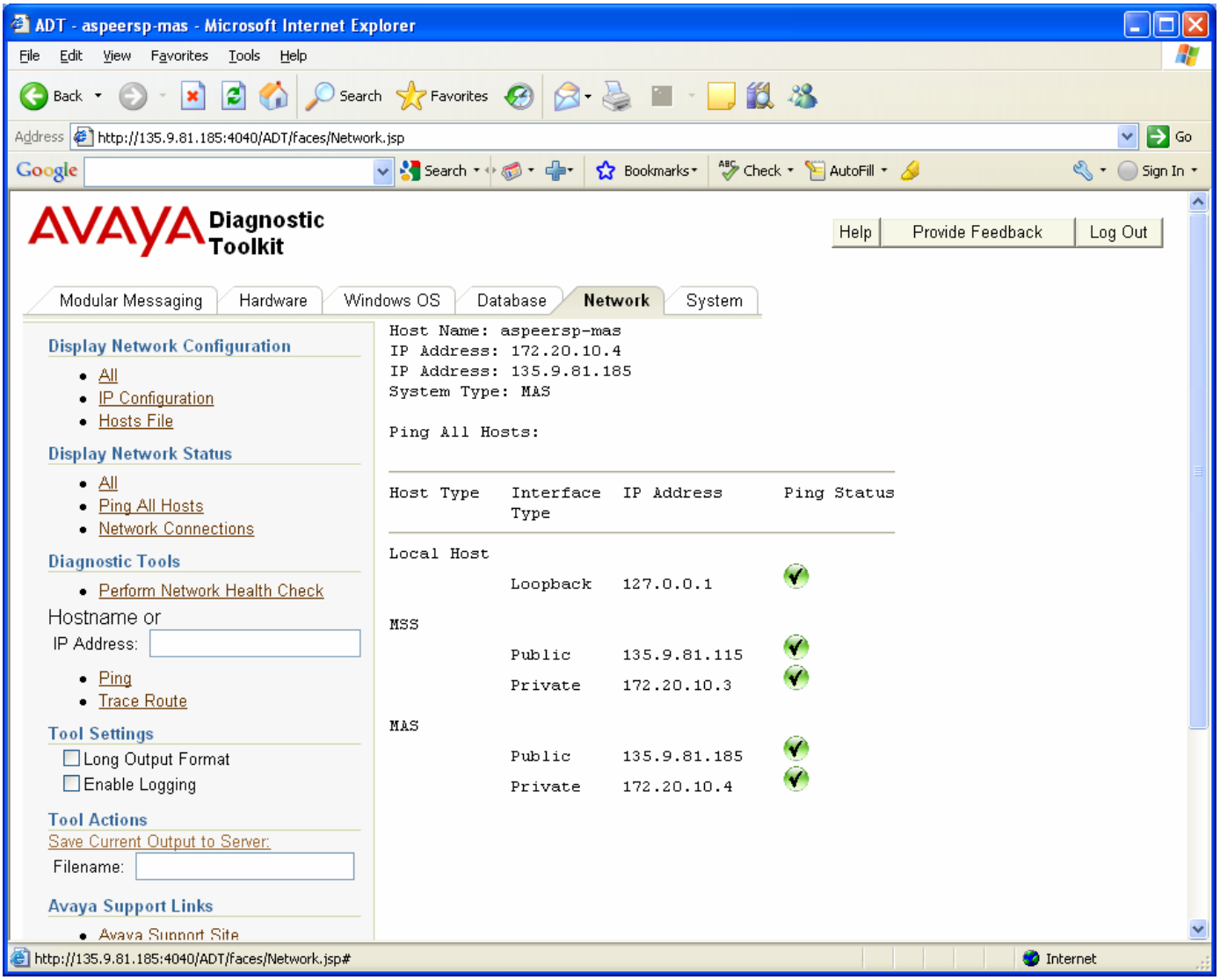
This menu item will run all of the ADT network configuration tools described in the previous subsections.

5.2.2 Display Network Status

This section discusses the ADT tools available to view the current network status on an Modular Messaging MAS system.

5.2.2.1 Ping All Hosts

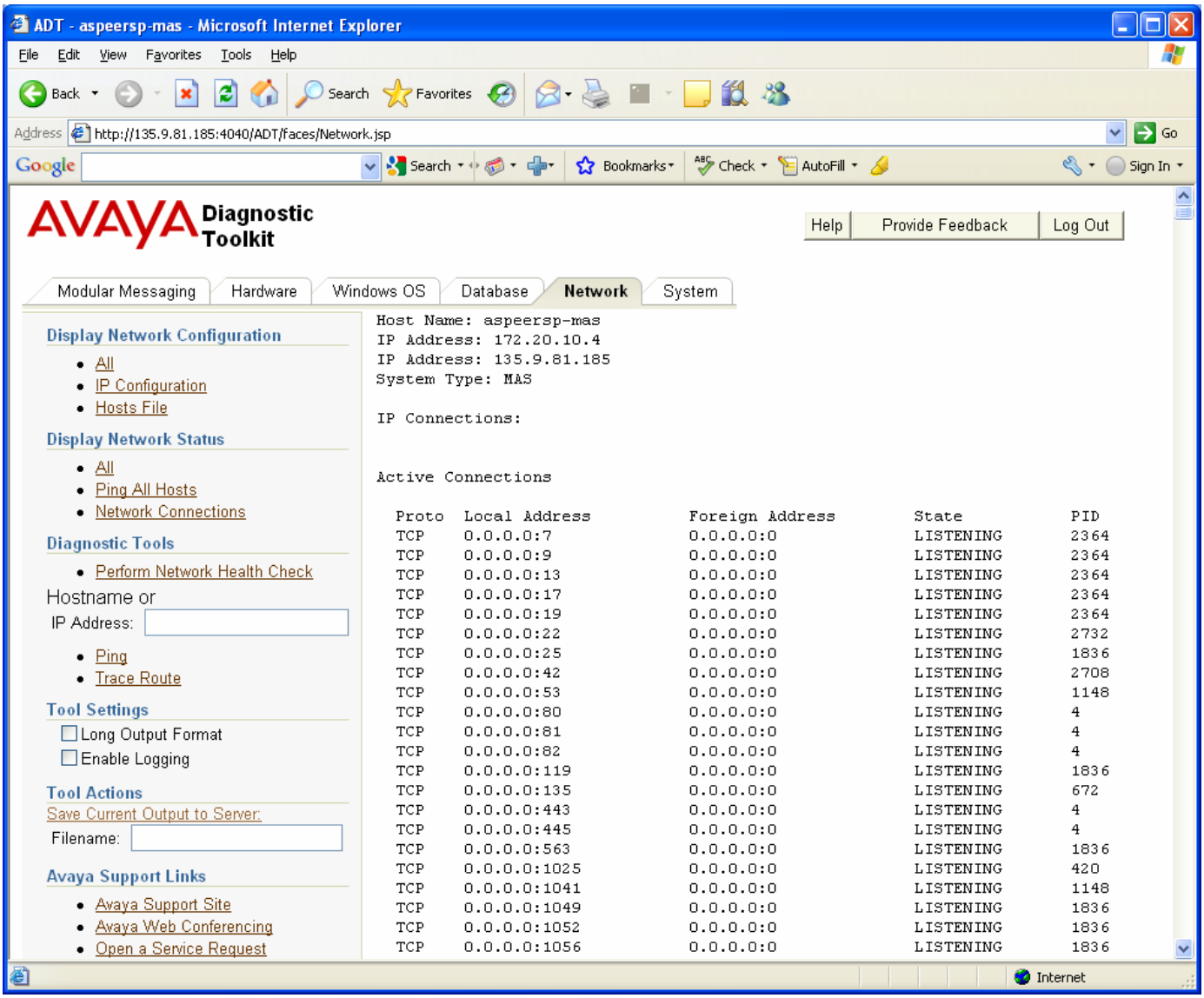
The “Ping All Hosts” tool is checks network connectivity between the MAS system and all other hosts in the hosts file. This is useful in debugging various firewall and other connectivity issues. If ping fails for any host, the “Trace Route” diagnostic tool can be used to further isolate where the network problem could be occuring. The following image shows the output of this command.



The “Ping All Hosts” tool parses the hosts file according to rules in the MAS Application “Host List” tool to determine the list of hosts to ping. It then uses the windows “Ping” command to ping each host found.

5.2.2.2 Network Connections

The “Network Connections” tool can be used to display the list of current TCP/IP network connections to and from the Modular Messaging host. This is useful in debugging various firewall and other connectivity issues. The following image shows the output of this command.



The IP Connnection information is obtained using the “netstat -ano” command.

5.2.2.3 All

This menu item will run all of the ADT network status tools described in the previous subsections.

5.2.3 Network Diagnostic Tools

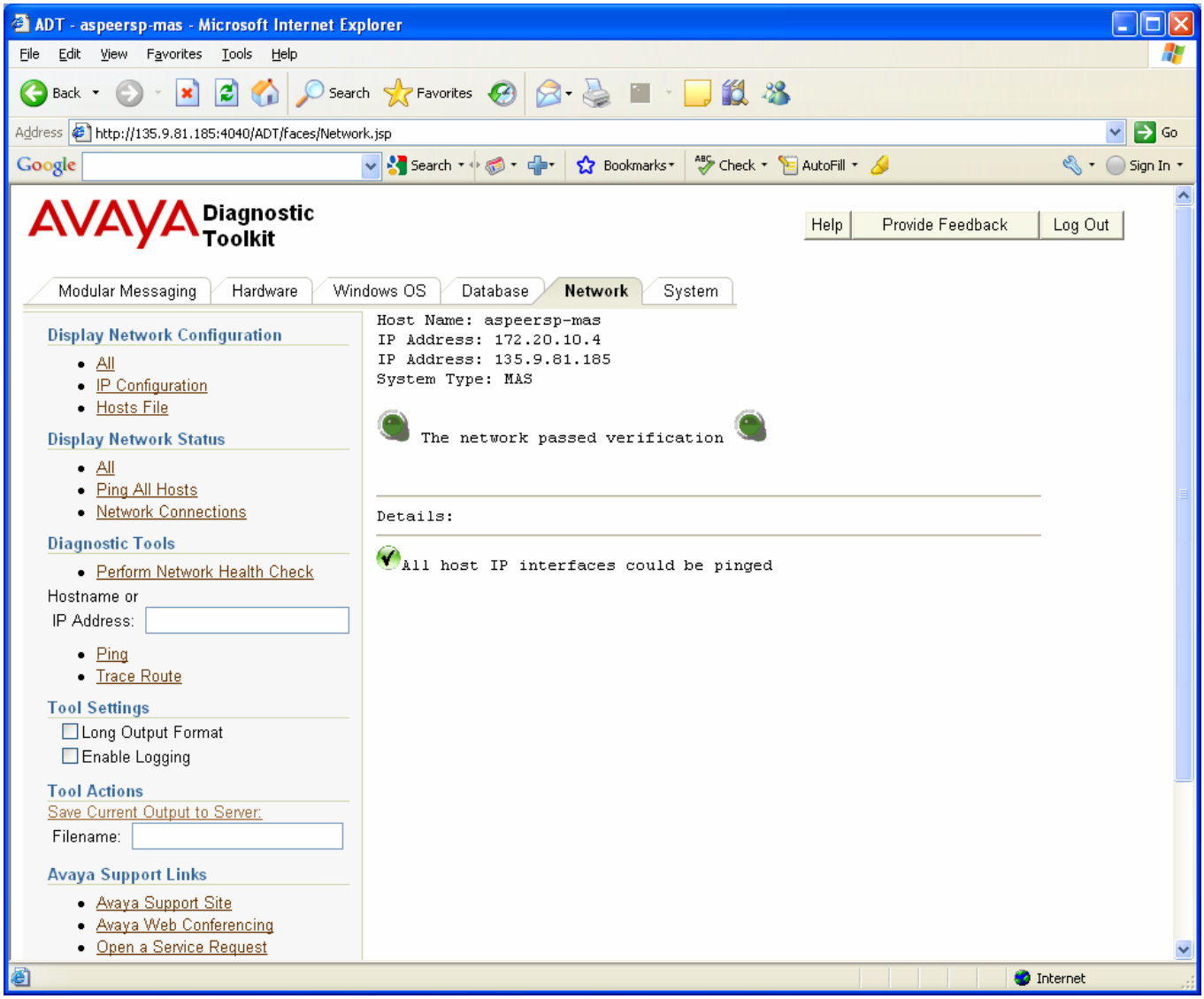
This section discusses the ADT network diagnostic tools on an Modular Messaging MAS system.

5.2.3.1 Perform Network Health Check

This tool will perform a network health check on the MAS host. The following items are verified by this tool.

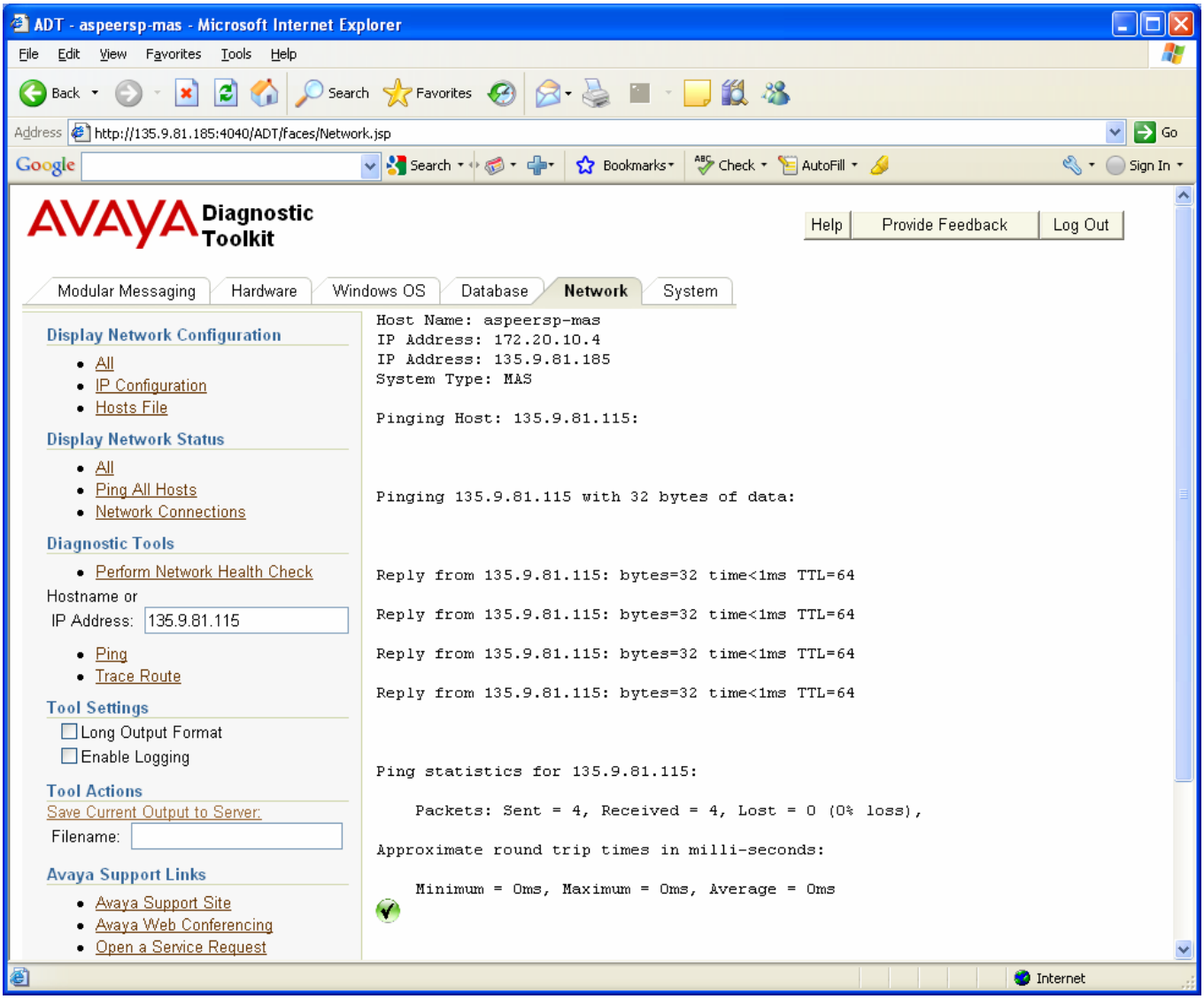
- All hosts in the hosts file respond to a ping command

The following image shows an example run of the Network Health Check tool.



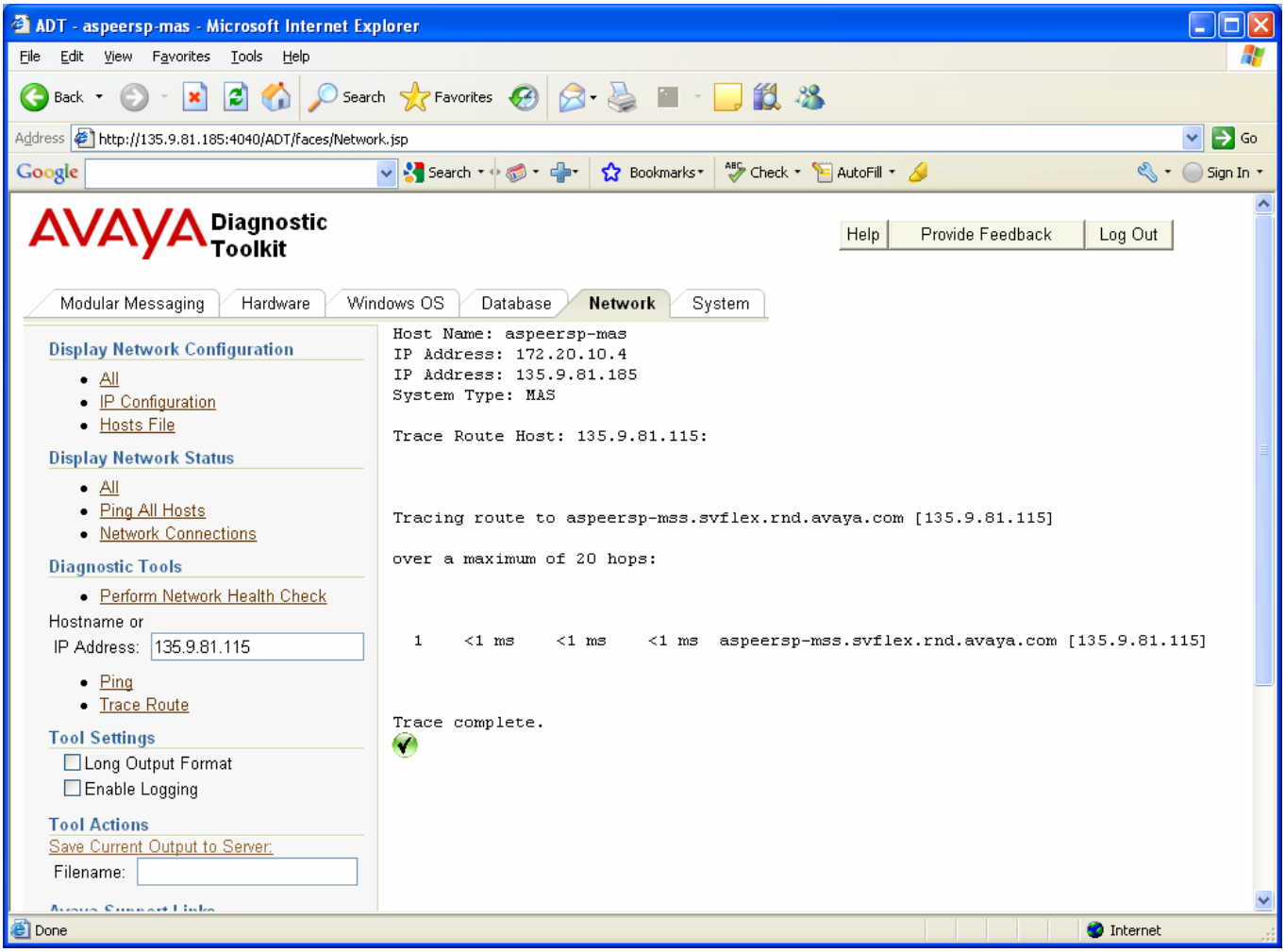
5.2.3.2 Ping a Hostname or IP Address

The “Ping” tool can be used to test basic IP network connectivity from the MAS host to a spcified hostname or IP address. The following image shows the output of this command.



5.2.3.3 Trace Route a Hostname or IP Address

The “Trace Route” tool can be used to display the per-hop network delay between the MAS server and another server in the IP network. This is useful in trying to determine which host in the IP network could be causing excessive network delay or routing problems. The following image shows the output of this command.


ADT - aspeersp-mas - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://135.9.81.185:4040/ADT/faces/Network.jsp
Go
Google Search Bookmarks Check AutoFill Sign In
AVAYA Diagnostic Toolkit
Help Provide Feedback Log Out
Modular Messaging Hardware Windows OS Database Network System
Display Network Configuration
All
IP Configuration
Hosts File
Display Network Status
All
Ping All Hosts
Network Connections
Diagnostic Tools
Perform Network Health Check
Hostname or
IP Address: 135.9.81.115
Ping
Trace Route
Tool Settings
Long Output Format
Enable Logging
Tool Actions
Save Current Output to Server:
Filename:
Host Name: aspeersp-mas
IP Address: 172.20.10.4
IP Address: 135.9.81.185
System Type: MAS
Trace Route Host: 135.9.81.115:
Tracing route to aspeersp-mss.svflex.rnd.avaya.com [135.9.81.115]
over a maximum of 20 hops:
1 <1 ms <1 ms <1 ms aspeersp-mss.svflex.rnd.avaya.com [135.9.81.115]
Trace complete.
Done
Internet

CHAPTER 6 – SYSTEM DIAGNOSTIC TOOLS

6.1 Chapter Goal

The goal of this chapter is to learn how to use ADT System Diagnostic Tools

6.2 System Diagnostic Tools

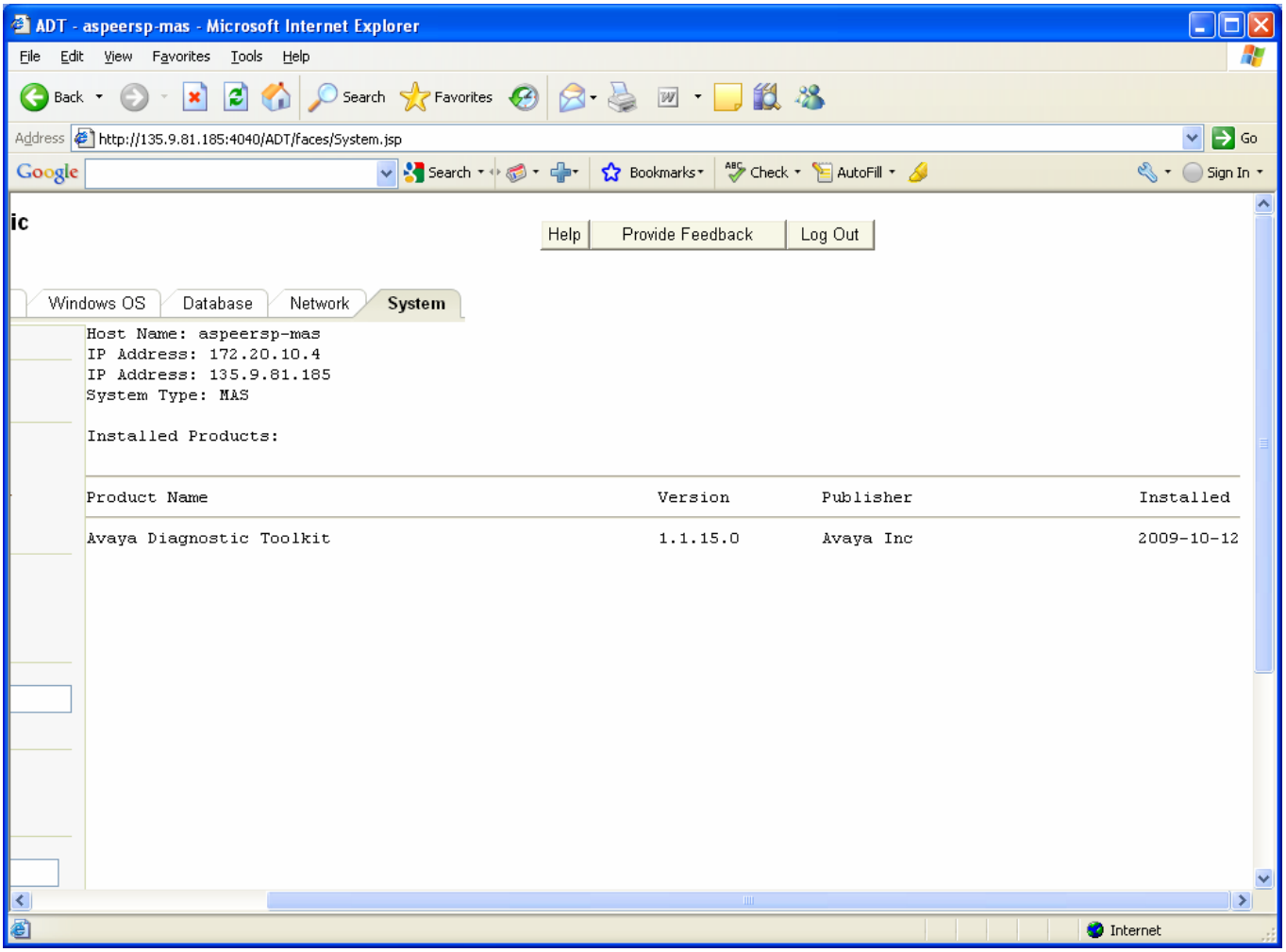
This section discusses the various system diagnostic tools provided by the ADT.

6.2.1 About ADT

This section discusses the ADT tools available to view specific information about the ADT

6.2.1.1 Display ADT Version

The "Display ADT Version" tool is used to display the version of the ADT that is running. The following image shows the output of this command.

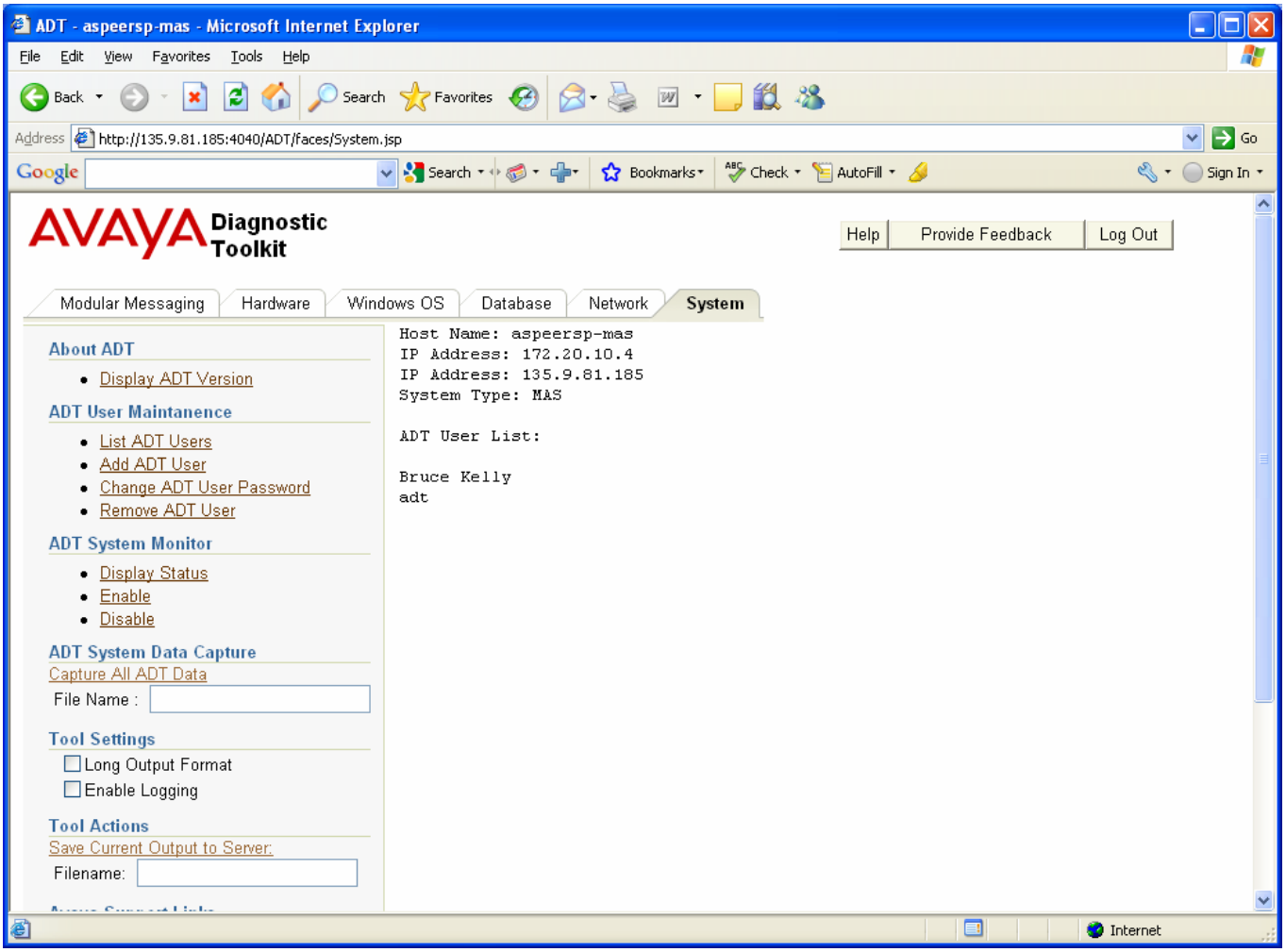


6.2.2 User Maintenance

This section discusses the procedures for listing, adding, removing and modifying ADT users. All user maintenance tools are available on the "System" tab.

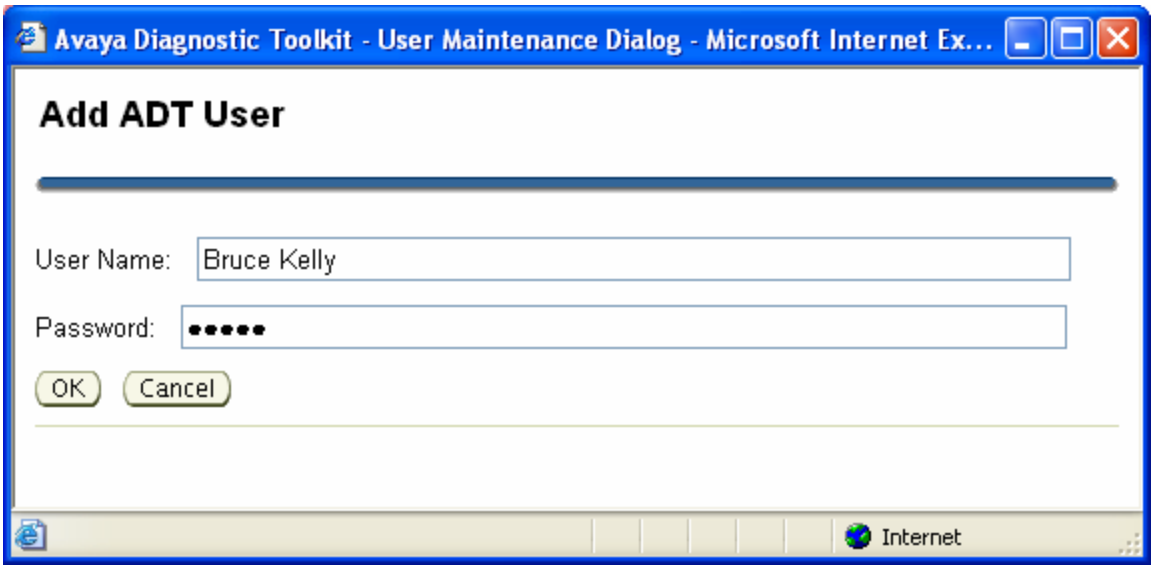
6.2.2.1 Listing ADT Users

The "List Users" tool displays the current list of ADT users. The following image shows an example of the ADT user list that will be displayed when using this tool. In this case, two users are configured (the default "adt" user and "Bruce Kelly")



6.2.2.2 Adding a ADT User

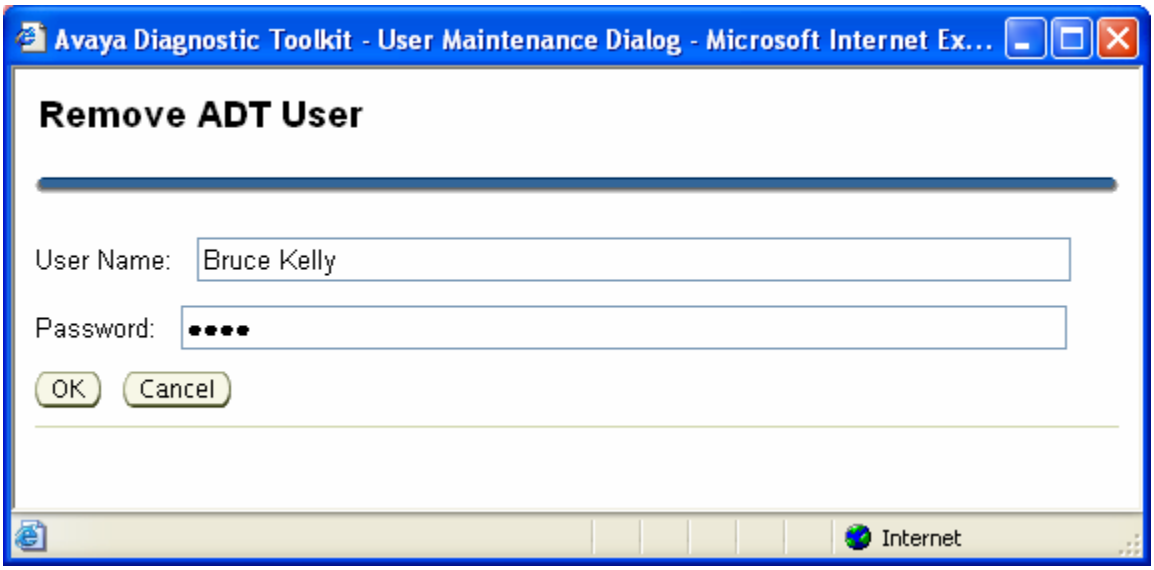
To add an ADT user, click on “Add User” and the following prompt window will be displayed:



Enter the new ADT User Name and Password to add and click the "OK" button. The new user will now be displayed using the "List User" tool and will be able to login to the ADT tool.

6.2.2.3 Removing a ADT User

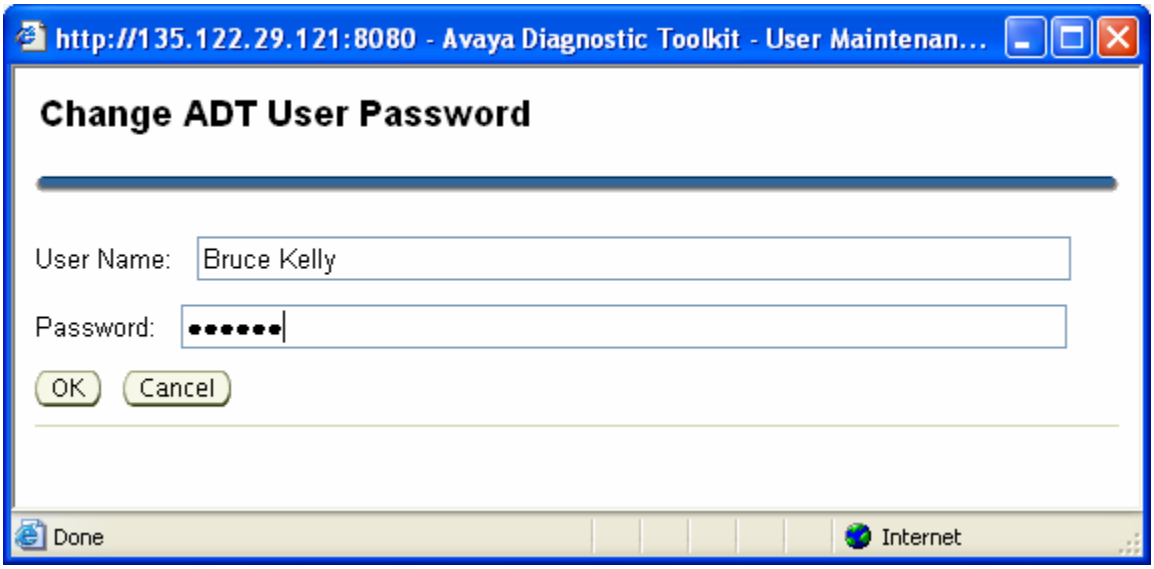
To remove an ADT user, click on "Remove User" and the following prompt window will be displayed:



Enter the new ADT User Name to remove and click the "OK" button. The new user will no longer be displayed using the "List User" tool and will not be able to login to the ADT tool.

6.2.2.4 Changing a ADT User password

To change the password for an existing ADT user, click on "Change User Password" and the following prompt window will be displayed:

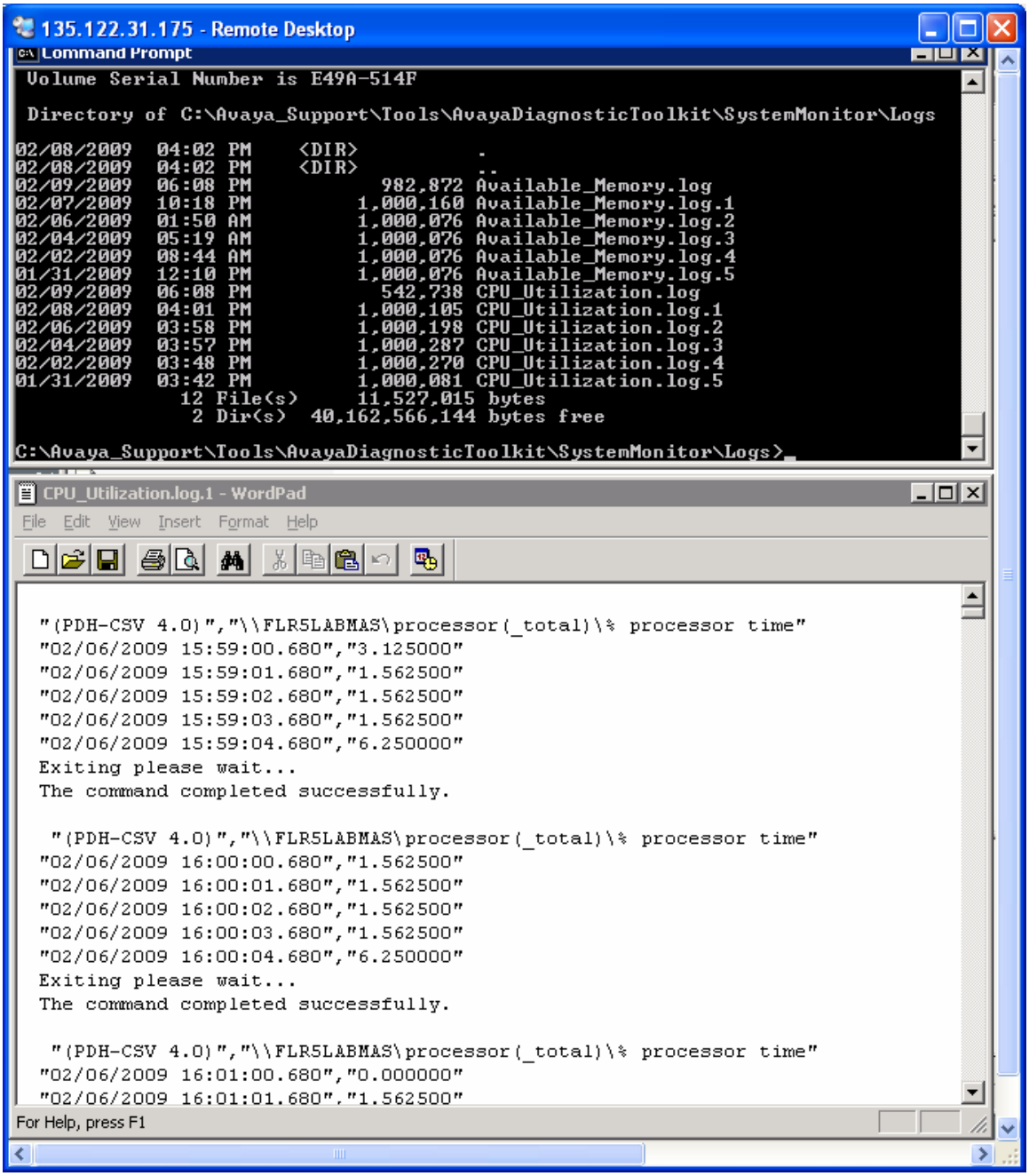


Enter the ADT User Name and Password to change and click the "OK" button. The new user will still be displayed using the "List User" tool and will be able to login to the ADT tool using their new password.

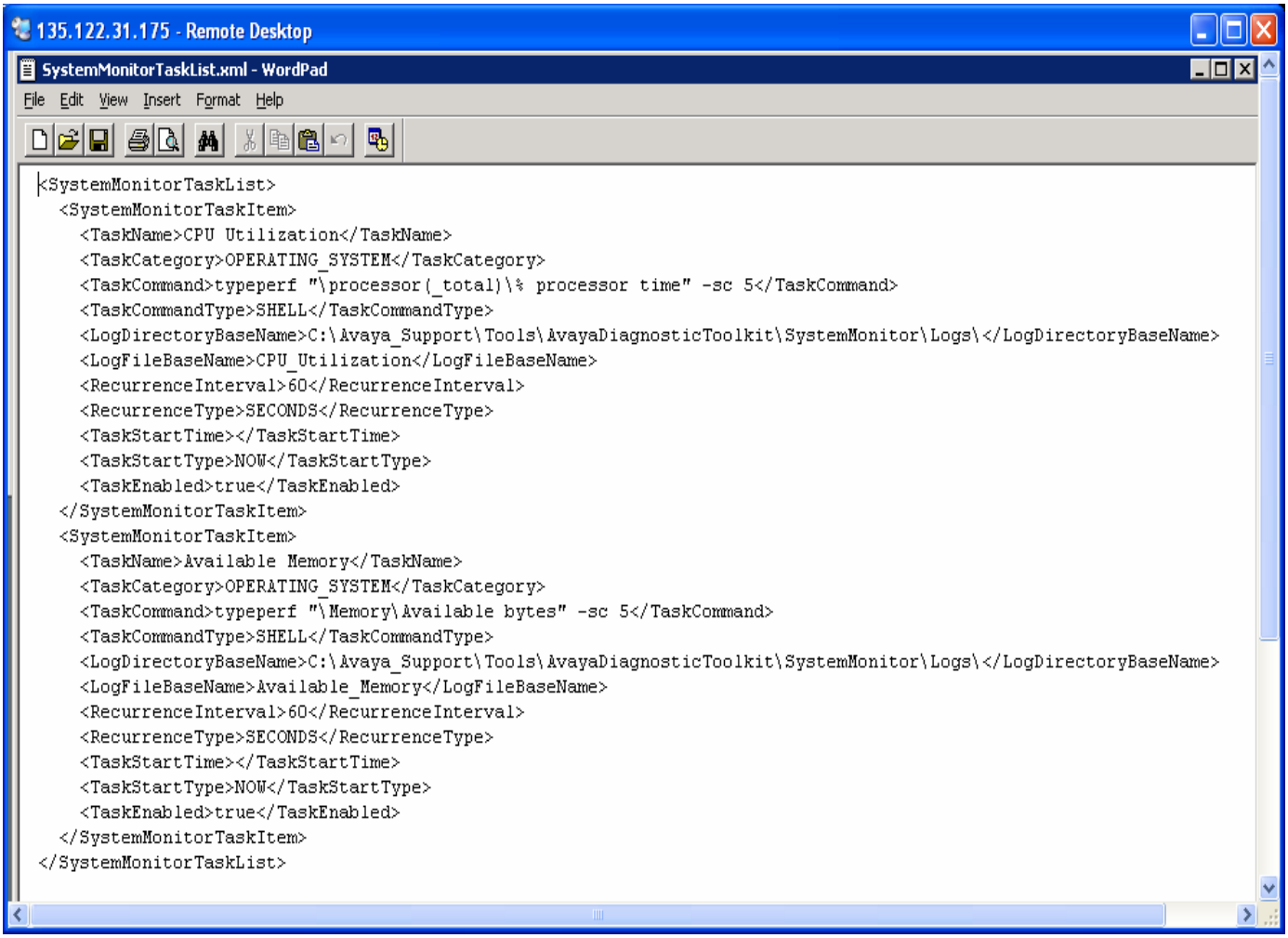
6.2.3 ADT System Monitor

This section discusses the ADT System Monitor. The ADT System monitor is a tool that allows the user to schedule any shell command (sql query in the future) to execute on a regular basis (every day, hour, min, etc.). The goal of this tool is to be able to capture data and trends over time in order to help identify the cause of performance and other problems that happen sporadically.

The output of the ADT System Monitor commands is written to a rolling set of log files in the SystemMonitor\Logs directory off of the ADT installation directory (for example: c:\Avaya_Support\Tools\AvayaDiagnostic Toolkit\SystemMonitor\Logs), one set per command. By default, the ADT System Monitor is disabled. However, if the ADT System Monitor is enabled, it captures CPU and Memory statistics every minute. The following image shows a listing of the log directory for the default ADT System Monitor configuration and a tail of one of the CPU_Utilation.log log files.



The ADT System Monitor task list is currently configured via an xml file called SystemMonitorTaskList.xml located in the apache-tomcat-6.0.20\webapps\ADT\WEB-INF\classes\adt\resources directory (for example: C:\Avaya_Support\Tools\AvayaDiagnosticToolkit\apache-tomcat-6.0.20\webapps\ADT\WEB-INF\classes\adt\resources). **Modifying this file is strongly discouraged unless instructed to do so by the ADT maintenance team since it could have a negative performance impact on the application.**



6.2.3.1 Display Status

The “Display Status” tool displays the current status of the ADT System Monitor. If the ADT system monitor is enabled, the “Display Status” option will display:

“The ADT System monitor is running”

Othewise it will display:

“The ADT System monitor is not running”

6.2.3.1 Enable

The “Enable” tool starts the ADT System Monitor. The output of this command indicates whether the ADT System Monitor was started successfuilly or not.

6.2.3.1 Disable

The "Disable" tool stops the ADT System Monitor. The output of this command indicates whether the ADT System Monitor was stopped successfuilly or not.

6.2.4 Capture All ADT Data

This section writes the summary of the actions performed under the components of ADT for MM (which includes Modular Messaging, Hardware, Windows OS, Database and Network) into a user specified file. The summary file will be stored at **ADT_HOME/AvayaDiagnosticToolkit/UserData** (where ADT_HOME is the ADT Installation Path on MAS).

For Example: **C:\Avaya_Support\Tools\AvayaDiagnosticToolkit\UserData (**where ADT_HOME = C:\Avaya_Support\Tools).

The file will be appended with "Capturing ALL ADT Components Information Completed." after successful completion of writing ADT Components Summary.

The Steps to capture ADT data is as follows:

1. Click on the 'System' tab after logging into the ADT application.
2. Enter a file name under "ADT System Data Capture".
3. Click on the link 'CaptureAllADTData' to capture data. After that the summary of ADT components will be captured into the specified file. The path will also be shown on the screen as shown below.

'Capturing All ADT Components Data' to the location
'C:\Avaya_Support\Tools\AvayaDiagnosticToolkit\data\ ' is started..

4. It will take several minutes for the data capture process to complete. During this time, the ADT can be used to run other ADT tools, however, only one data capture can be executed at a time. The line "Capturing ALL ADT Components Information Completed." will be appended to end of the file after writing all ADT Components Information.

5. If the user tries to execute another data capture while a data capture is already in progress the following message will be shown to the user

   "The 'Capture All ADT Data' function is currently in use.
   Please wait for it to complete and try again."

CHAPTER 7 – COMMON ADT FUNCTIONS

7.1 Chapter Goal

The goal of this chapter is to learn how to use the common functions that are built into all ADT pages

7.2 Common ADT Functions

This section discusses the various common functions that are built into the ADT.

7.2.1 ADT Usage Logging

This section discusses about the logging of ADT application usage. This will provides .CSV file (ADTUsage.csv) which will log all the classes and methods while using the application. This ADTUsage.csv will be saved at ADT_HOME\AvayaDiagnosticToolKit\logs folder. We can import this folder by saving this file as .xls extension. The following is an example of the contents of the ADTUsage.csv file:

06 Jul 2009 , 03:57:56, controller.OperatingSystemControllerBean,GenerateSystemInfo
06 Jul 2009 , 03:58:07,
controller.OperatingSystemControllerBean,GenerateEnvironmentVariableList
06 Jul 2009 , 03:59:50, controller.OperatingSystemControllerBean,GenerateCPUUsageSnapshot
06 Jul 2009 , 04:41:30, controller.DatabaseControllerBean,GenerateOperationalHistory

7.2.2 Tool Settings

This section discusses the various settings available within the ADT.

7.2.2.1 Long Output Format

If checked, the "Long Output Format" option will trigger the ADT to run the long output format version of any tool that is run. This option displays more detailed information than the normal

tool output format which is geared to fit on a "normal" width screen without scrolling. **Note: not all tools have a long output format.**

7.2.2.2 Enable Logging

This section discusses the logging mechanism of the ADT application. Logging information is used to debug the ADT and sould primarily be used by Avaya support. The user can enable/disable the logging, using the field "**Enable Logging**" from the application page.

If the user enables the logging, the log files will be created (if files are not there) in the **ADT_HOME/AvayaDiagnosticToolkit\logs** directory.

Debug log information will be captured in the file **ADTDebug.log** and error information will be capturedin the **ADTError.log.**

When the **.log** file size reaches **1MB** that file will rolled. i.e. if the size of the **ADTDebug.log** file reaches **1MB** the file will be rolled to **ADTDebug.log.1**. Next time again if the **ADTDebug.log** file reaches **1MB** in size then information in **ADTDebug.log.1** is rolled to **ADTDebug.log.2** and **ADTDebug.log** will be rolled to **ADTDebug.log.1**. Like this it will create 5 files as in the given sequence ...

ADTDebug.log → ADTDebug.log.1 → ADTDebug.log.2 → ADTDebug.log.3 → ADTDebug.log.4 → delete action will be performed.

The same rolling logic is applicable to the **ADTError.log** .

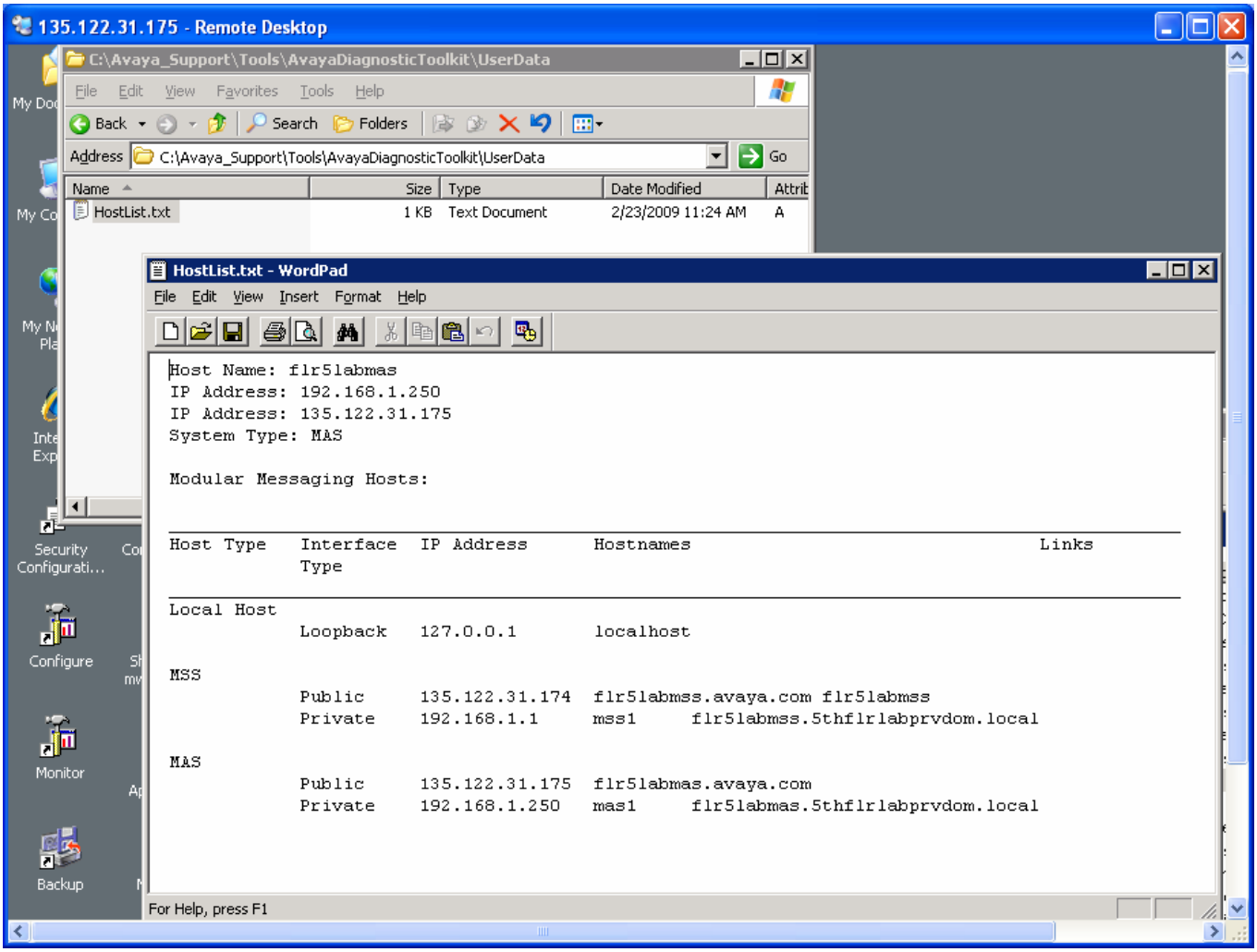
7.2.3 Tool Actions

This section discusses the various actions available within the ADT.

7.2.3.1 Save Current Output to Server Filename

If this action is chosen and a filename is entered, it will write the current output to a file named AvayaDiagnosticToolkit\UserData\<entered filename> off of the ADT installation directory. For example, if the user entered HostList.txt as the filename and the ADT installation directory is C:\Avaya_Support\Tools\AvayaDiagnosticToolkit, the ADT would create a file with the information from the output area into a file name: C:\Avaya_Support\Tools\AvayaDiagnosticToolkit\UserData\HostList.txt

Use Microsoft WordPad to view the saved file as it preserves formatting better then other editors. The following image shows the saved file location in Windows Explorer and the file contents in the WordPad editor:



7.2.4 Avaya Support Links

This section discusses the various links to Avaya public websites within the ADT

7.3.4.1 Avaya Support Site

This link opens a new browser window to the public Avaya Global Support Site.

7.3.4.2 Avaya Web Conferencing Site

This link opens a new browser window to the public Avaya Web Conferencing Site. Avaya Web Conferencing is an Avaya tool that may be one of the tools used by Avaya Support to access the customer's systems.

7.3.4.3 Open a Service Request

This link opens a new browser window to the public Avaya Global SSO site that is used for opening service requests for Avaya products

7.3.4.4 Search the Knowledge Management Database

This link opens a new browser window to the Avaya Insite Knowledge Management website and searches it for articles that match the entered "Search String" field. **Note: the customer's login credentials and inability to access the internat may limit what articles they are able to see.**

CHAPTER 8 – ADT INSTALLATION AND MAINTENANCE

8.1 Chapter Goal

The goal of this chapter is to learn how to install and maintain the ADT

8.2 ADT Installation and Maintenance

This section discusses installation and maintenance of the ADT

8.2.1 System Requirements

The following are the system requirements for the ADT:

- Modular Messaging MAS version 3.0 – 5.2
- Microsoft Windows Operating System 2003

8.2.2 Downloading, Installing and Uninstalling the ADT

This section discusses procedures for instaling and uninstalling the ADT.

8.2.2.1 Downloading the ADT software

The ADT application is delivered as a Windows Installer File that can be easily installed on the Modular Messaging MAS host running the Microsoft windows Operating System.

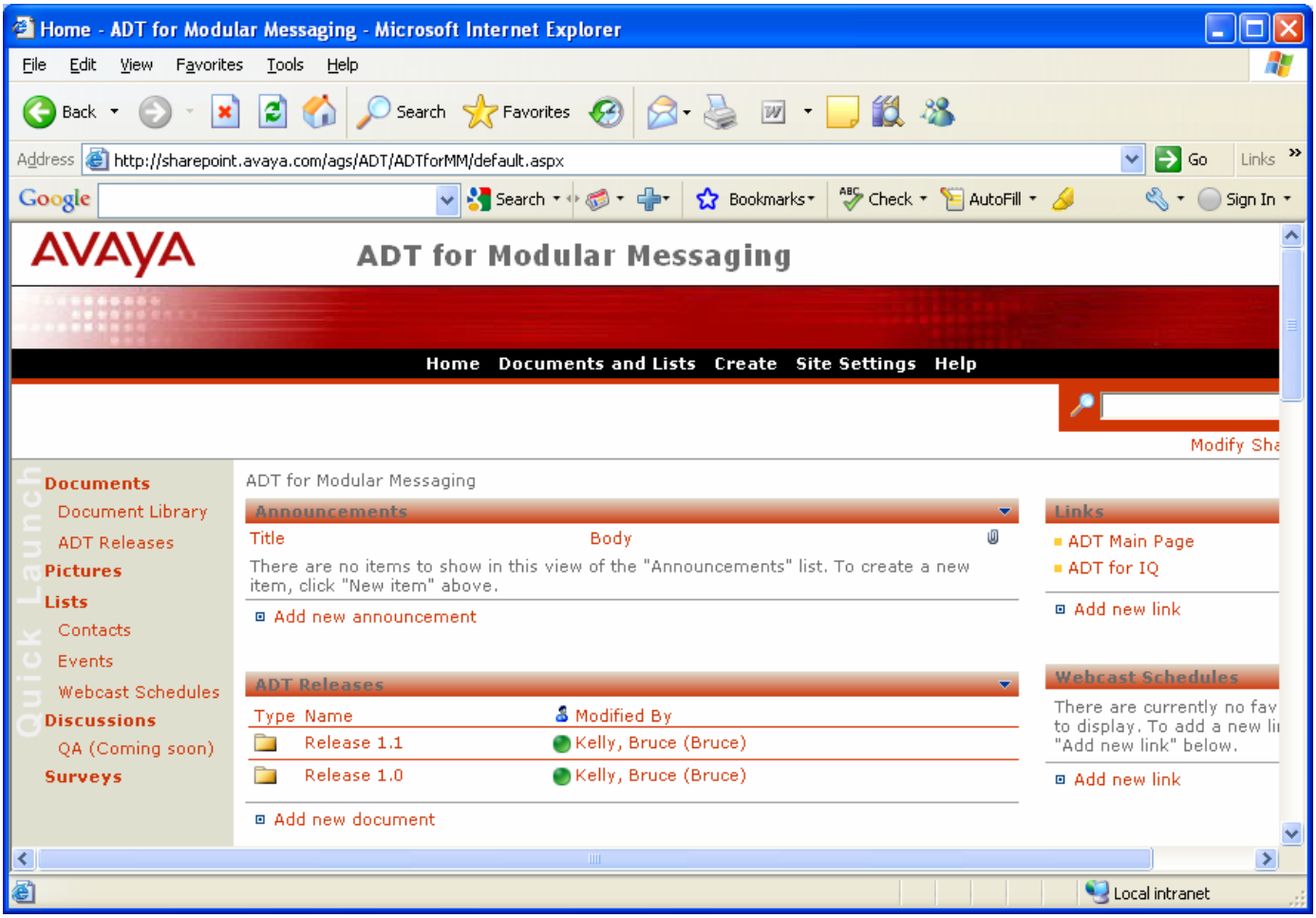
If the Modular Messaging MAS system(s) that you want to install the ADT on have internet access out and can access an Avaya internal web site (which is probably not the case at customer sites), you

make a remote desktop connection to the MAS system and use its Internet Explorer browser to download the Windows Installer File directly to the MAS server. If this is not the case, you will have to download the Windows Installer File to your PC and then ftp it to the customer's MAS systems (perhaps using an intermediate public ftp server such as ftp.avaya.com).

The ADT application Windows Installer File can be downloaded from the following ADT for Modular Messaging sharepoint site:

http://sharepoint.avaya.com/ags/ADT/ADTforMM/default.aspx

The following is screen image of that site



Under the "ADT Releases" section, click on the latest release or the release you are interested in using. The lastest release at the time this user's guide was written is 1.1. You should see the following three items in the release directory.

- ADT User's Guide
- ADT windows installation file

The following is a screen image showing these files.

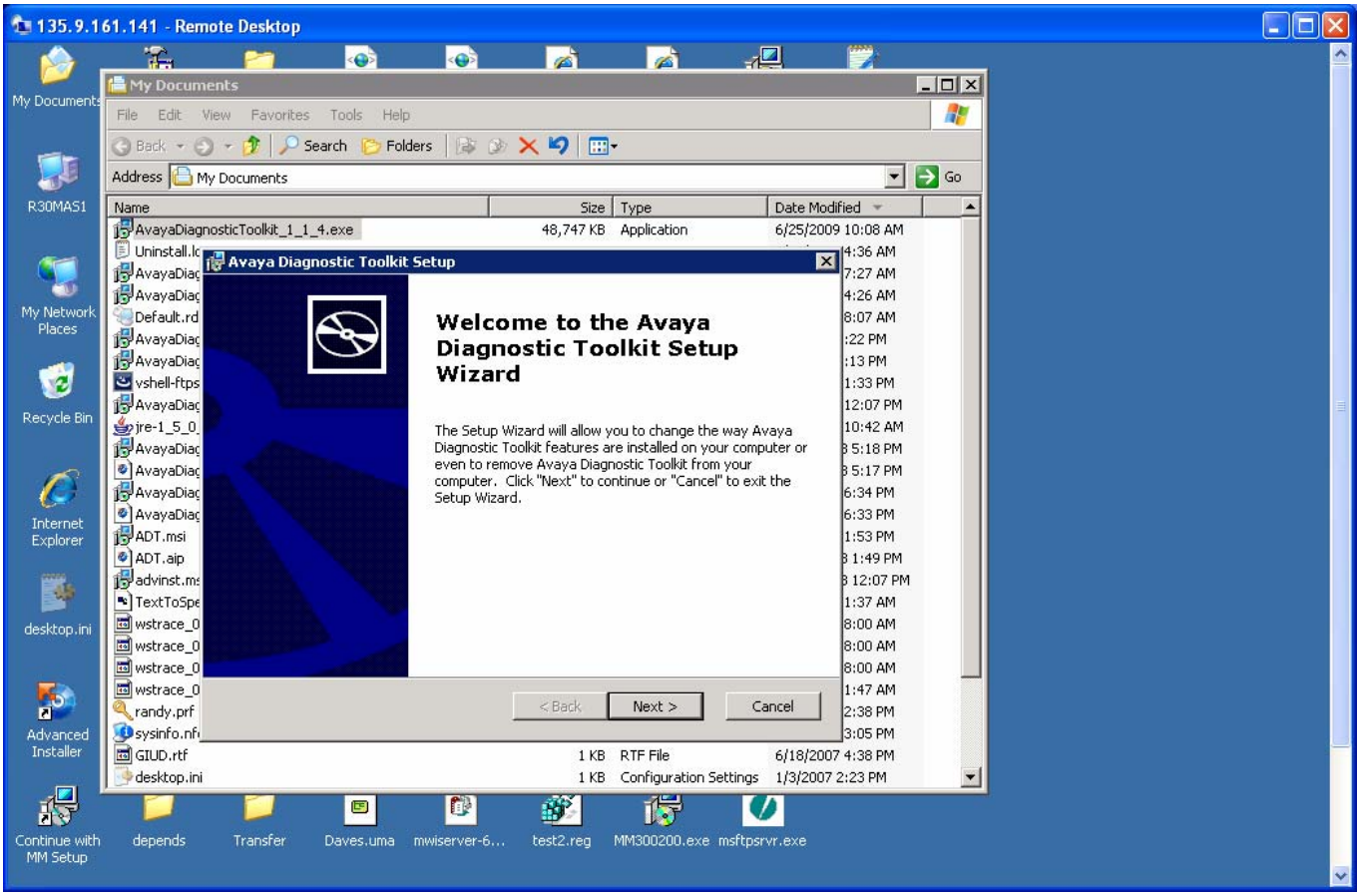
To download the ADT Windows Installer File to the machine running your internet browser, simply click on the ADT Windows Installer File (for example: AvayaDiagnosticToolkit_1_1_4 above) in the screen image above. You will then be prompted to “Run”, “Save”, or “Cancel”. Hit the “Save” button. You will then be prompted for the location on the machine running your internet browser on where to store the file. Choose a location that has enough disk space to store the file, and hit the “Save” button. The ADT Windows Installer File will be stored in the specified location.

8.2.2.2 Installing the ADT

The ADT must be installed by a user with windows Administrator privledges and can be installed once the ADT Windows Installer File has been downloaded and stored on the Modular Messaging MAS system (see section 8.2.2.1 for details on downloading the ADT Windows Installer File).

1) Log in as a user with Windows Administrator privledges

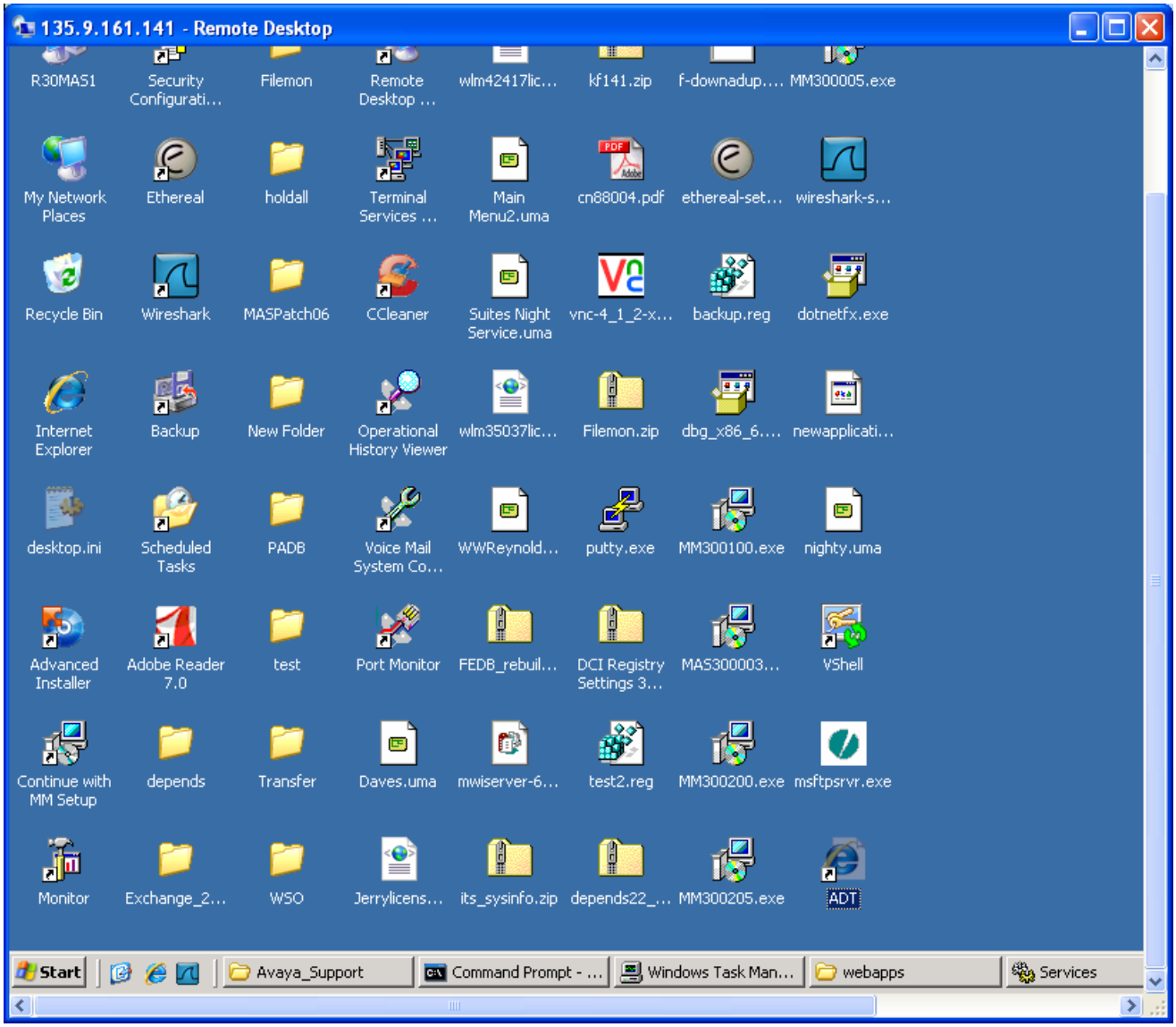
2) To start the installtion, open a windows explorer session and navigate to the directory that contains the ADT Windows Installer File (in the following example, "My Documents"), and double click on the file name. A setup wizard will pop up to walk the user through the ADT installation process. ADT for MM(release 1.1) can be installed in any location which doesn't have spaces (For example ADT should not be installed in the location "C:\Program Files") . **Taking defaults in all the cases is strongly recommended.**



2) Click on the "Finish" button and the Avaya Diagnostic Toolkit Setup Wizard will complete its work and close its pop up window. The Avaya Diagnostic Toolkit software is now fully installed and running.

Once the ADT is finished installation, click finish and the installation window installation wizard should close. The ADT installation process will create an ADT shortcut icon on the user's desktop as shown in the lower right hand corner of the following image. This icon can be used to execute

the ADT on the MAS's local browser. Refer to the introduction section for a discussion on the various use case scenarios for the ADT.



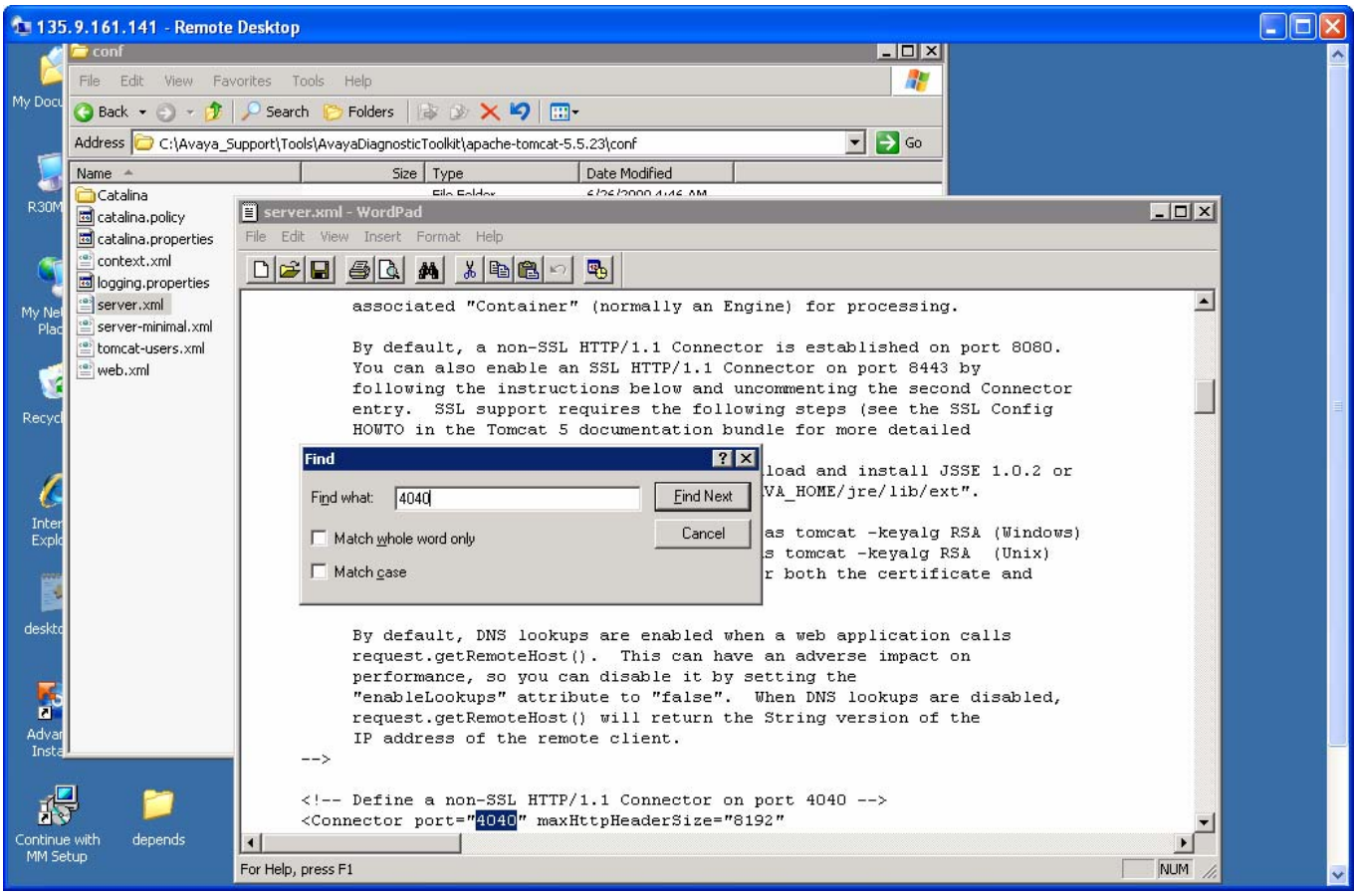
The default Login ID is "adt" and the default Password is "avaya1". Avaya strongly suggests changing the default password. Refer to section 6.2.2 for instructions on how to change a ADT user password.

8.2.2.2.1 Changing the ADT port

By default, the ADT is set up to run on port 4040 as described in the introduction section. In some instances, port 4040 may not be available for ADT use due to conflicts with other applications or other restaints. To change the ADT port, follow the following steps:

1) Stop the ADT (refer to section 8.2.3)

2) Edit the apache-tomcat-6.0.20\conf\server.xml file from the ADT installation directory using wordpad or some other text editor. Serach for 4040 and change all occurances to the desired port. An example of the server.xml file is shown below



3) Start the ADT (refer to section 8.2.3)

8.2.2.3 Uninstalling the ADT

1) Log out of all Avaya Diagnostic Toolkit browser sessions

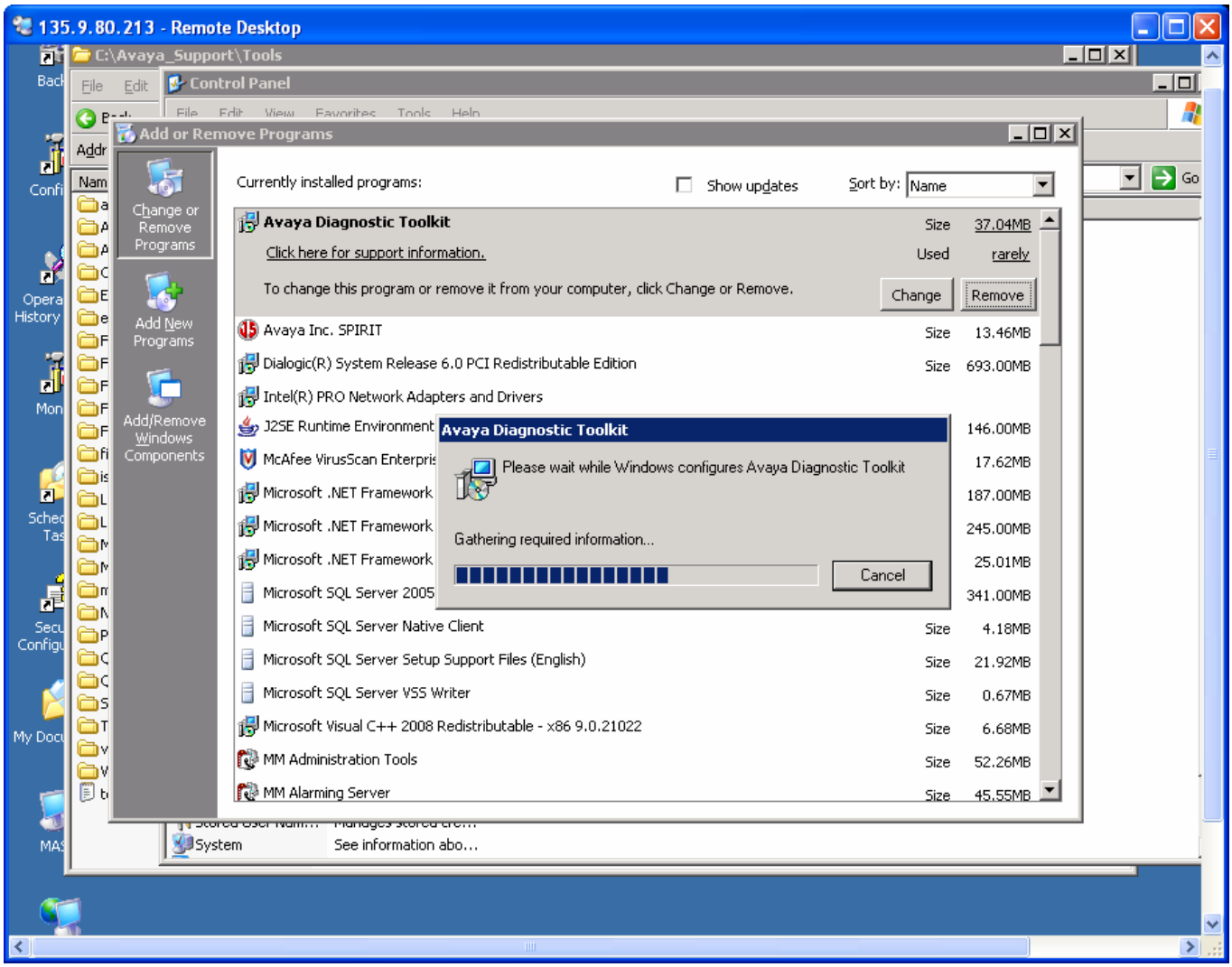
2) Open up a windows explorer window

3) Get out of all ADT_HOME\AvayaDiagnosticToolkit directories

4) Bring up the Start->Settings->Control Panel->Add or Remove Programs

5) Click on “Avaya Diagnostic Toolkit”

6) Click on the “Remove” button



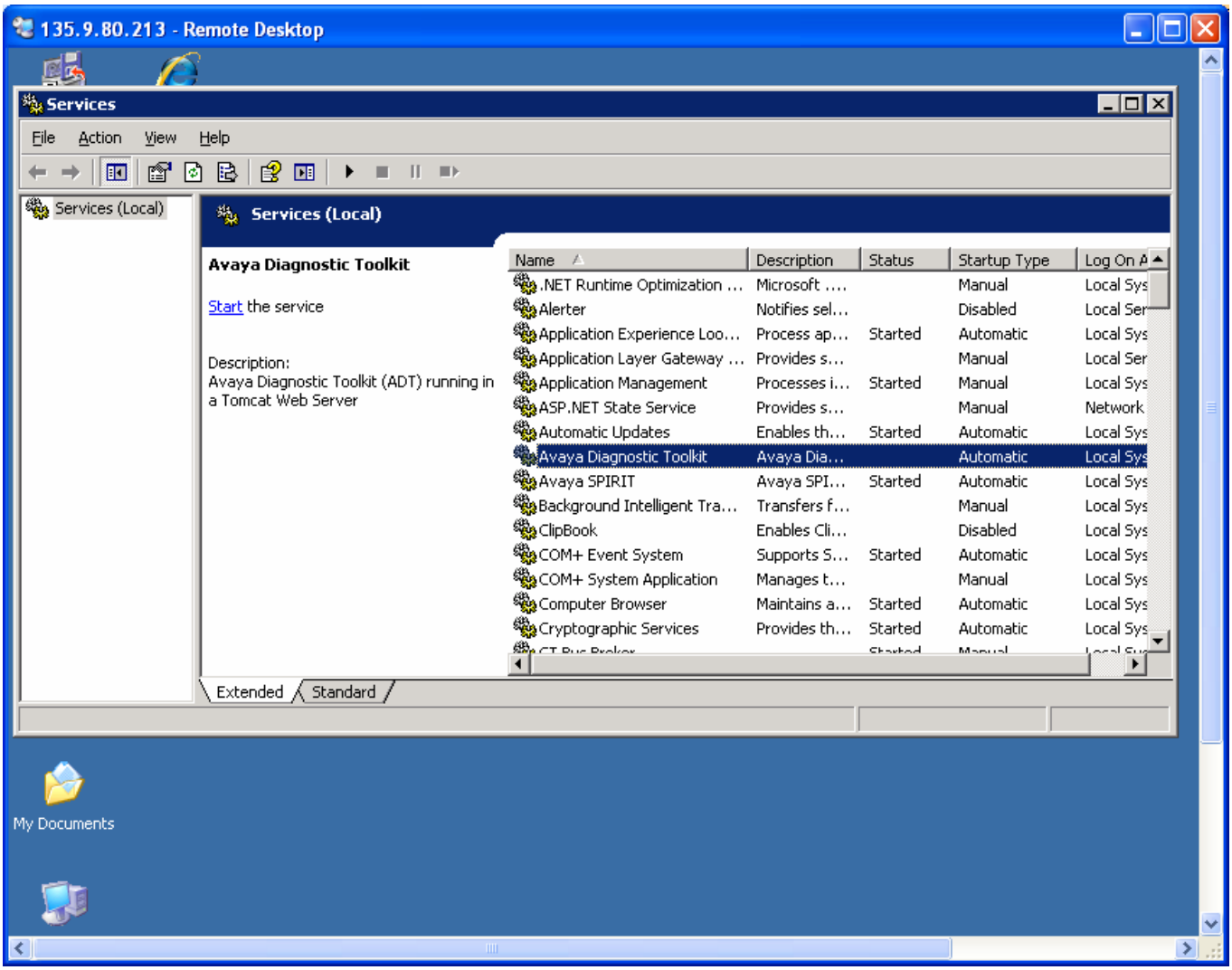
) Verify that the ADT_HOME\AvayaDiagnosticTooolkit directory has been removed. If the directory hasn’t been removed, just remove it using windows explorer.

8.2.3 Starting and Stopping the ADT

The ADT service will automatically start upon ADT installation and system reboot, however, there may be some instance in which the ADT will need to be stopped and started. This section discusses the procedures for starting and stopping the ADT service.

8.2.3.1 Starting the ADT

To start the ADT, bring up the Windows Services Tool from Start->Programs->Administrative Tools->Services. Click on the "Avaya Diagnostic Toolkit" service. The tool should display a "Start the service" link as shown in the following screen image.

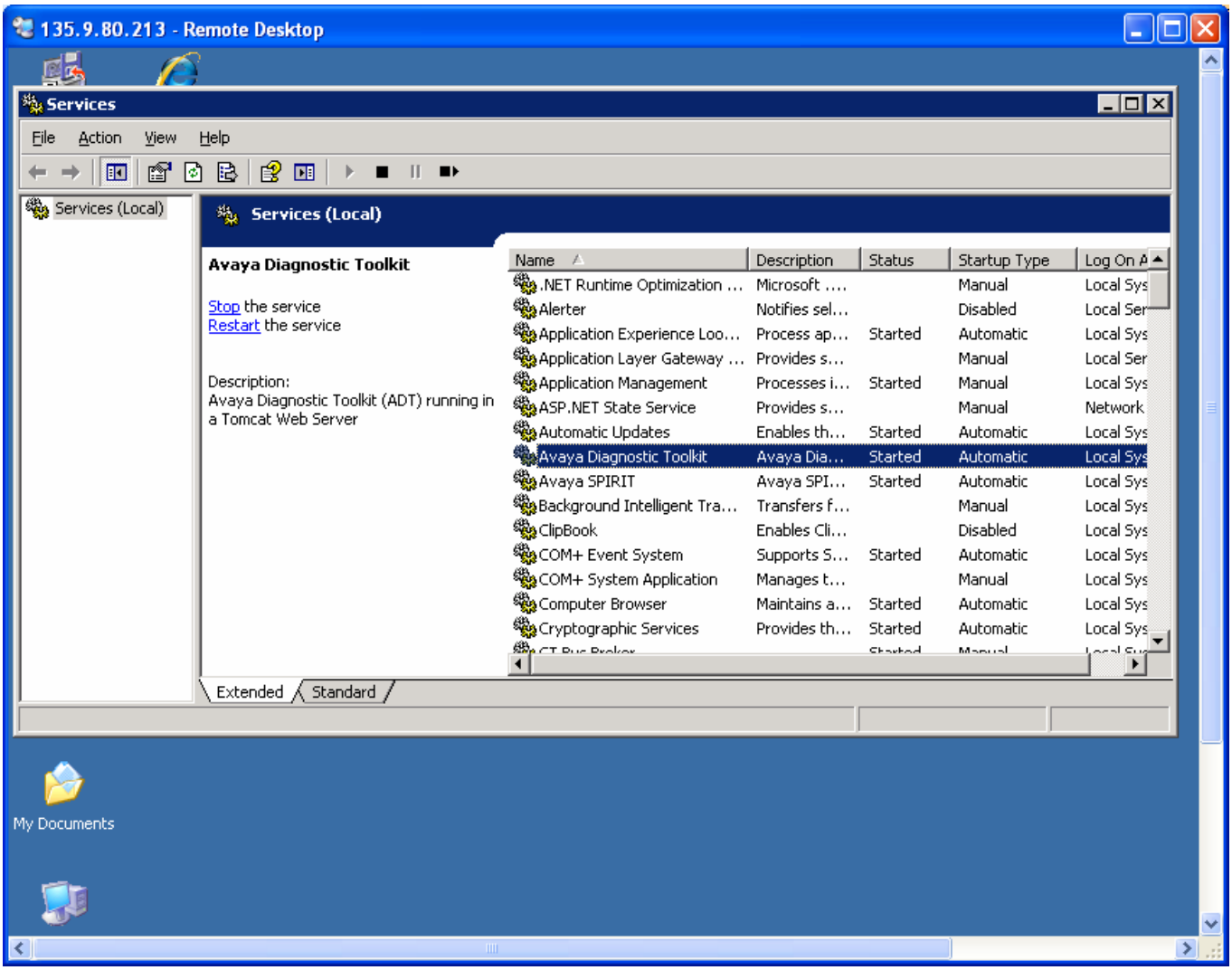


Click on "Start" to start the ADT.

ADT can also be started from command prompt by giving the command "net start adt"

8.2.3.2 Stopping the ADT

To stop the ADT, bring up the Windows Services Tool from Start->Programs->Administrative Tools->Services. Click on the "Avaya Diagnostic Toolkit" service. The tool should display a "Stop the service" link as shown in the following screen image.



Click on "Stop" to stop the ADT.

ADT can also be stopped from command prompt by giving the command "net stop adt"

Appendix