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ClientVantage Agentless Monitoring

Version 11.x

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Introduction

This topic introduces the ClientVantage Agentless Monitoring (CVAM) course by presenting information on how CVAM may be used to monitor a network within an enterprise.

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Introduction

- Classroom Introduction
  - Instructor Introduction
    - Hina Ayaz
  - Student Introductions
  - Classroom Layout
  - Computer Resources
- Course Materials (Videos, demo utility vm images, online demo utility)
- Facilities

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Introduction

By the end of this course, you should be able to:

- Describe the purpose and function of ClientVantage Agentless Monitoring (CVAM).
- Identify the core components of CVAM, and describe how the components may be deployed.
- Configure CVAM to collect and decode network traffic across an enterprise.
- Configure application definitions within CVAM to provide monitoring for specific business functions.
- Configure CVAM to monitor network communications for defined conditions, and trigger alerts when criteria are violated.
- Analyze collected data using CVAM Data Mining.
- Report on collected Data.
- Show results in dashboard
- How to give demo using demo utility

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Introduction

- To meet the course objectives, the course has been divided into the following sections or topics:
  - Vantage Analysis Server (VAS), Advanced Diagnostic Server (ADS) and Vantage Configuration for Agentless End User Experience (VCAEUE) Installation
  - AMD, VAS, and VCAEUE Navigation, Configuration and Setup
  - AMD Administration
  - VCAEUE Administration
  - VAS and ADS Administration
  - Data Reporting
  - Dashboards

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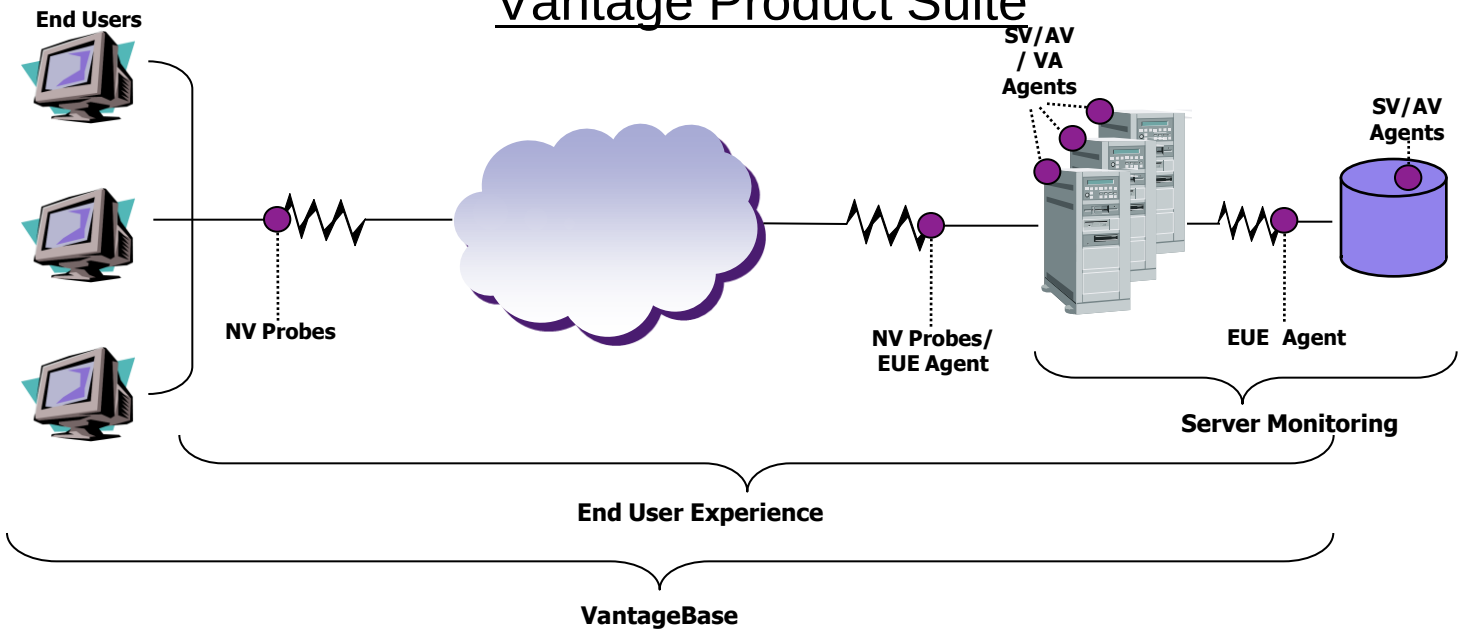
ClientVantage Agentless Monitoring

Vantage Product Suite



	Description
Vantage RUM	End user experience monitoring
ApplicationVantage	Transaction troubleshooting and profiling
Network Monitoring (NV)	Networked application monitoring and troubleshooting
Server Monitoring (SV)	Back tier server and application monitoring
Java/.net monitoring (VA)	J2EE and .Net monitoring
Vantage Base	Portal based data repository and reporting

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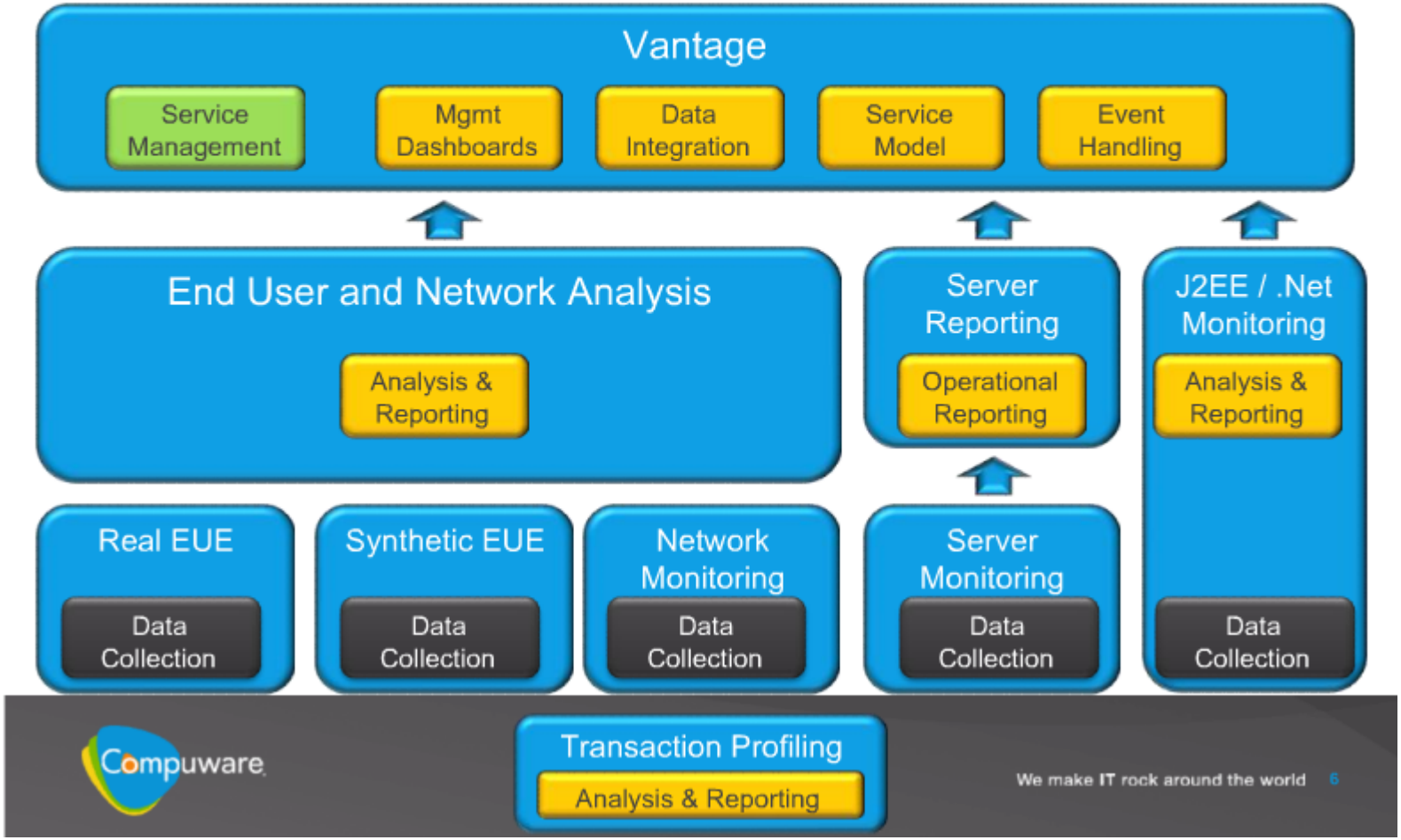
Vantage 11 Architecture



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ClientVantage Agentless Monitoring

- ClientVantage Agentless Monitoring is a software based solution for monitoring and analysis of an enterprises web and database applications.
- CVAM uses a Top Down approach to troubleshooting an applications performance.
  - This means starting at the end user's experience and moving down into increasing granularity, as the fault domain is isolated.
- CVAM passively monitors every user and every transaction all the time. It can act as both an early warning system and an efficient troubleshooting tool.

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ClientVantage Agentless Monitoring

- Helps IT within an organization to understand how well the infrastructure is performing using “real user experience” as the yardstick.
- Identifies whether an application, network segment, or server may be responsible for any performance degradations.
- Monitors performance at the individual user level.
- Analyzes application service delivery quality by a variety of dimensions—user, network, server, application, business unit, etc.

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ClientVantage Agentless Monitoring

Four components make up the ClientVantage Agentless Monitoring Solution:

1. Vantage Analysis Server (VAS)

- The Vantage Analysis Server is the principal reporting component for Vantage Agentless Monitoring

2. Agentless Monitoring Device (AMD)

- AMDs are network probes that analyze network traffic as a basis for Vantage analysis of end-user experience, performance, availability and usage of key IT resources. AMDs feed their data to ClientVantage, Vantage Analysis Servers, and Advanced Web Diagnostics Servers

3. Advanced Web Diagnostics Server (AWDS)

- The AWDS provides detailed, graphical analysis of individual and multi-page web transactions, supplemented by tools to isolate systemic causes of performance degradation.

4. Vantage Configuration for Agentless End User Experience (VCAEUE)

- The VCAEUE is made up of 2 components.
  - VCAEUE Server is a back-end server application that maintains configuration images and device information, runs tasks related to configuration management, and provides a Web services API for VCAEUE Console to manage configurations
  - VCAEUE Console is a Graphical User Interface application for configuring AMDs and report servers, and other Vantage Devices.

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ClientVantage Agentless Monitoring

- **VAS Hardware Configurations**
  - The VAS is available in two sizes, tier 1 and tier 2. The larger tier 2 size improves the throughput that the VAS is able to monitor and process.

- **AMD Hardware Configurations**
  - AMDs are available in two sizes, tier 1 and a larger tier 2. In addition, Compuware offers hardware options for additional network interfaces and for SSL decryption. Note that both AMD sizes offer similar total analysis throughput, but the tier 2 AMD is able to simultaneously analyze traffic from more network interfaces. The tier 2 AMD offers 8 expansion slots for sniffing NICs, while the tier 1 AMD supports 2 NICs (plus 1 slot used for SSL).

- **AWDS Hardware Configurations**
  - The larger tier 2 AWDS has the same processing power, but larger storage for longer data retention of detailed analytical information. The AWDS is available in two sizes, tier 1 and tier 2, configured the same as a VAS.

- **VCAEUE Hardware Configurations**
  - VCAEUE Server is usually installed on the same server as the VAS.
  - VCAEUE Console can be installed on any computer operating Microsoft Windows.

- **All components are available on Dell, HP, or IBM platforms**

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ClientVantage Agentless Monitoring

- The Agentless Monitoring Device (AMD) is a completely passive device, placing no additional load on the network. The AMD can be connected to the network in two ways:
  - Spanning the switch
    - In today's switched environments most switches have the ability to mirror multiple ports and or multiple VLAN's to a single monitoring port. This gives the AMD the ability to passively monitor traffic from a number of different perspectives. Therefore the AMD can see traffic in front of and behind load balancers, as well as all the tiers in between. In cases where the switch can not accommodate more spans, the use of regeneration taps can be favorable.
  - Passive Taps
    - In certain cases, the use of span ports may not be viable. In this case passive taps may be utilized to capture the application traffic to be monitored. This method requires multiple tap points to fully see all tiers within the application.

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ClientVantage Agentless Monitoring

- The AMD will be installed in a rack mount server system that allows for easy connectivity to any area of a company's enterprise network.
- The AMD is accessed through a direct connected monitor, keyboard and mouse or by establishing a SSH (Secure Shell) session to the IP address of the AMD.
- Although the VAS and AWDS are also rack mounted hardware components, they are easily accessible by either a direct connection via monitor, keyboard and mouse hook up or via a browser remotely.

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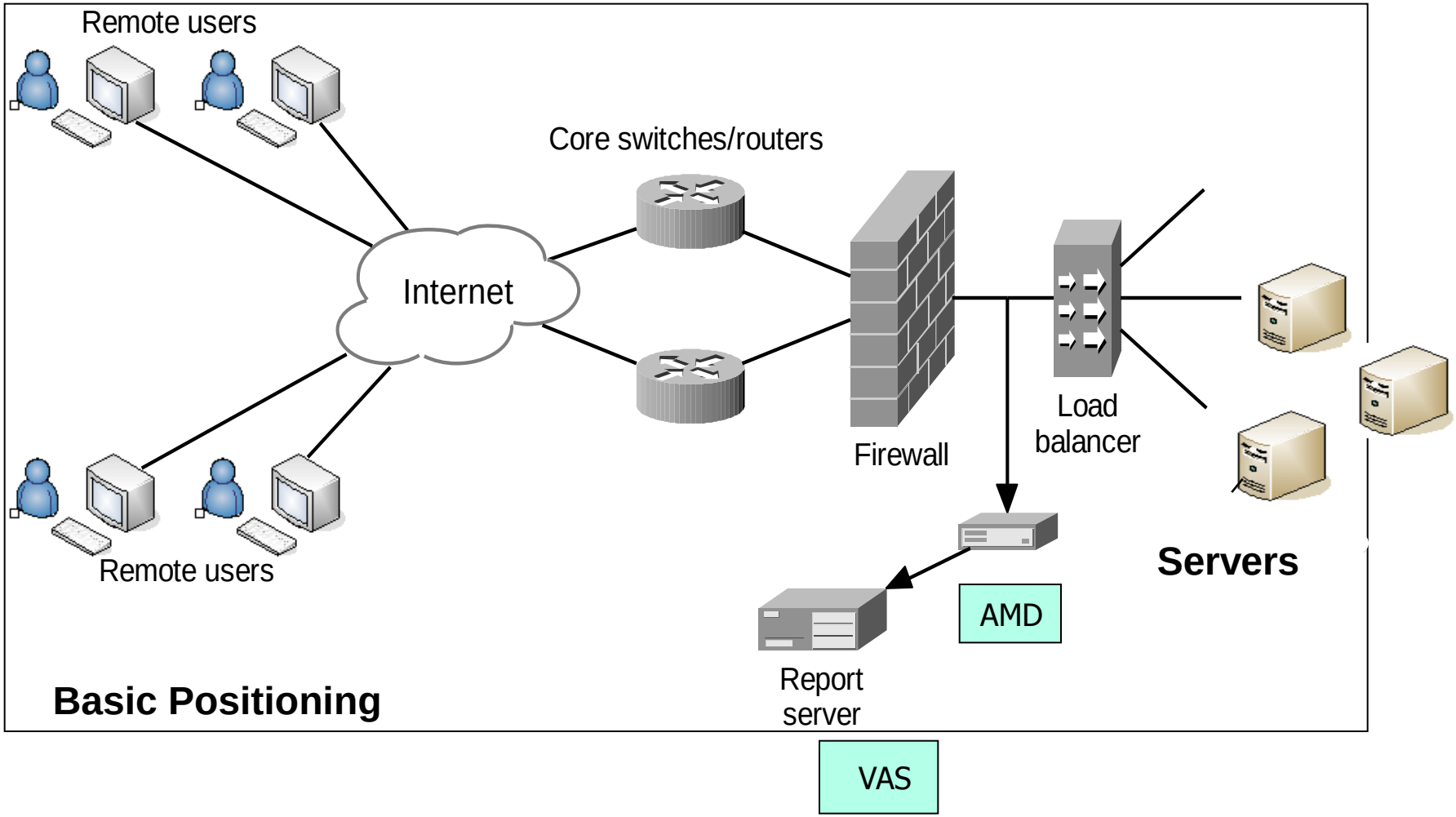
ClientVantage Agentless Monitoring



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ClientVantage Agentless Monitoring

- The VAS and the AWDS do not communicate with each other.
- Data is collected off the network into the AMD where all the analysis of the data is performed.
- Data is then pulled from the AMD by either the VAS and/or the AWDS for data mining and reporting.

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VAS, VCAEUE and AWDS installation

- Vm image exercise

AMD Details

This topic outlines the installation of the AMD and VAS hardware components within ClientVantage Agentless.

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Objectives

By the end of this section, you should be able to:

- Understand Port Spanning
- Identify the ports within the AMD and VAS hardware/vmware components
- Correctly connect an AMD and VAS vmimage for proper communication and data collection.

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- The AMD and VAS hardware components are both rack mounted systems in live environment.
- For training purposes vm-images have been used
- Physically they both will look identical except for the added network interfaces on the AMD used as sniffer ports. The VAS will only have the communication NIC for communicating with the AMD and remote access.
- In order to understand how the AMD and VAS components physically connect to the network, we will discuss Port Spanning.

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ClientVantage Agentless Monitoring

- Port Spanning is used on network gear for the purposes of monitoring sections of the network.
- Let's say a network switch has 32 ports for connecting to various areas of the corporate network.
- If we connect a sniffer to one of the ports, we will only see data that is coming in or out of that port, we might miss data on other ports.
- In order to insure that we see all the correct data, we can span a port.
- Basically this means that we take one of the 32 ports and we force it to mimic the data it sees on either one, several or all the other ports.
- Spanned ports are only able to pull data, no data can go back through the spanned port.
- By doing this we can duplicate the desired data for monitoring purposes without affecting the actual data as it goes from point A to B.

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How to position and connect AMD

- White board explanation of AMD, its positioning in various environment and how does port spanning work in this scenario

AMD Administration

This topic discusses the configuration and administration of the AMD. As an extension of this topic, navigation, setup and testing connectivity is also covered. To access these services, it is also necessary to discuss basic commands of the Linux operating system and the AMD.

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Objectives

By the end of this section, you should be able to:

- Access the AMD interface.
- Understand basic Linux commands.
- Understand basic AMD commands.
- Understand data structures and directories on the AMD.
- Test AMD connectivity and data collection.
- Perform AMD configuration and diagnostics.
- Navigate AMD configuration files.
- Navigate AMD log files.
- Navigate SSL Configuration.

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LAB – Logging into the AMD

- In order to access the AMD, you will need to perform a Linux based login on the AMD vmimage provided.
- User Name: root
- Password: greenmouse.
- In Linux, the superuser account is the **root** user.
- As a security feature, passwords are not visible as they are typed into Linux.
- In this lab you will login to the AMD.

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LAB – Logging into the AMD

- If you haven't done so already, connect and boot the AMD vm.
- Once the boot process is complete, use the following login information
  - Login: root
  - Password: greenmouse

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- Before we access the AMD commands, let's look at some basic Linux commands.

- Navigational commands

  - **ls [name of directory]**
    - Lists the contents of a directory. If no name is given, lists the files in the current directory.

  - **cd [option] [name of directory]**
    - Changes working directory. Use the "-" option to move to a previous directory. Use just "cd" to return to the home directory.

  - **pwd**
    - Print the full pathname of the current working directory.

  - **[command] | more**
    - Allows screen contents to be shown a page at a time.

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- Administrative commands
  - **ps**
    - Reports on active processes.
  - **shutdown [options] now**
    - Terminates all processing. “-r” option reboots the system when shutdown is complete. “-h” option halts the system when shutdown is complete.
  - **tar [options] [tarfile] [other-files]**
    - Copy files to or restore files from an archive medium.
  - **gzip [options] [files]**
    - Compresses files.
  - **gunzip [options] [files]**
    - Uncompresses files

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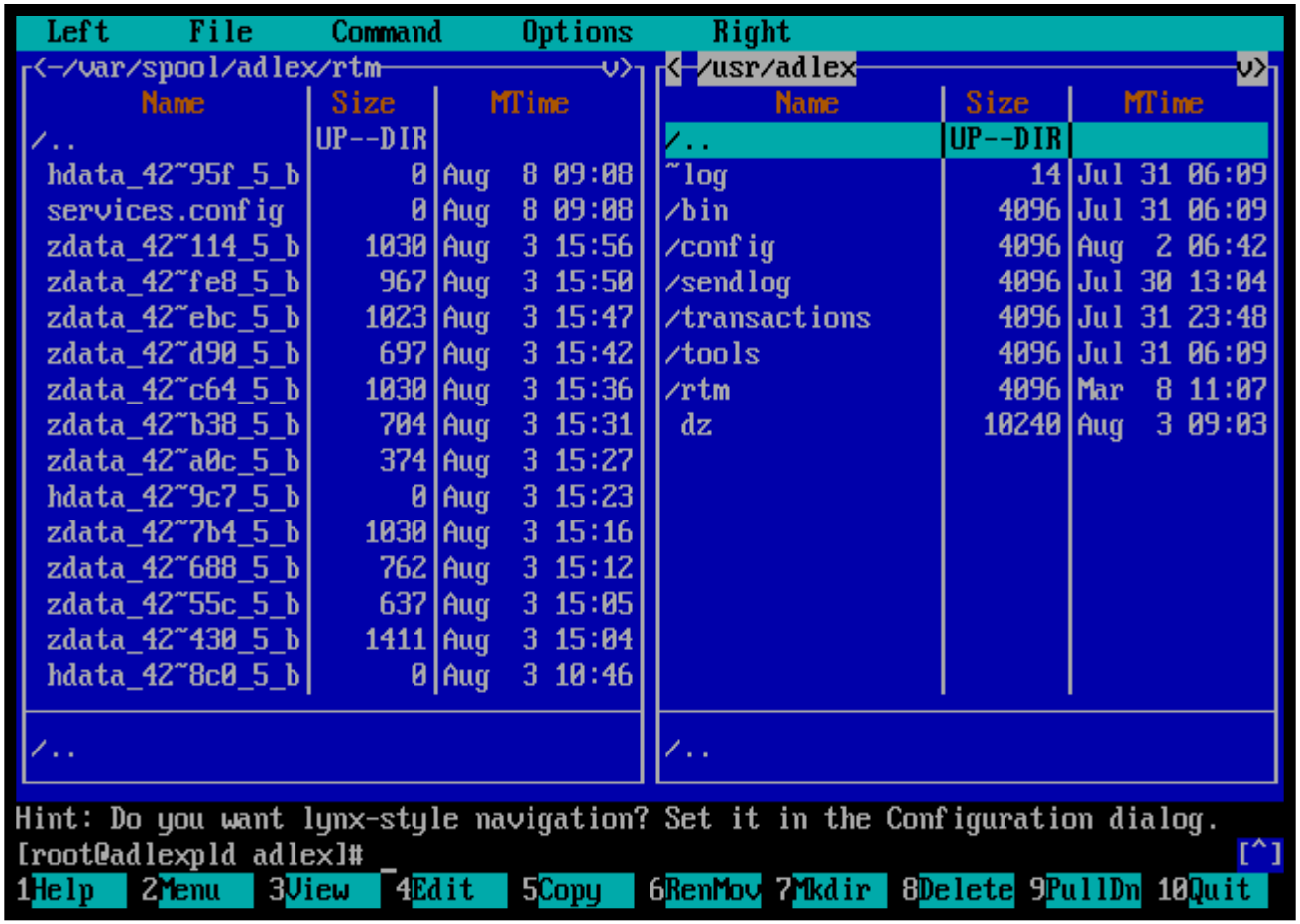
ClientVantage Agentless Monitoring

- **man** - Online help
- **mc** - Midnight Commander. This is a file manager program for Linux



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- Now that we have gone over a few Linux basics, let's move on to the AMD specific commands.
- The first command we will look at is the RTMINST (real time monitoring installation) command.
- The rtminst command allows us to perform diagnostics and AMD setup configurations.
- Before we can start using the AMD to collect data, we need to run rtminst command to set up the system.

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LAB – Configuring an AMD using the rtminst command

- Once you have identified all the Ethernet ports, you will go back to the main menu. You will now run a network diagnostic to identify the current network settings.
  - Type option 1 then press enter.
    - *This needs to be explained on vmware*

```
Compuware AMD Installation Toolkit ver. ndw.11.0.731

Options:
        1 - Interface identification
        2 - Diagnostics and network setup
        3 - AMD setup
        4 - System setup verification
        X - Exit
Select an option and press `Enter` :_
```


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LAB – Configuring an AMD using the rtminst command

- Once you have identified all the Ethernet ports, you will go back to the main menu. You will now run a network diagnostic to identify the current network settings.
  - Type option 2 then press enter.

```
Compuware AMD Installation Toolkit ver. ndw.11.0.731

Options:
        1 - Interface identification
        2 - Diagnostics and network setup
        3 - AMD setup
        4 - System setup verification
        X - Exit
Select an option and press `Enter` :_
```


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LAB – Configuring an AMD using the rtminst command

- The “S” option allows you to change the IP Address, Subnet mask and Default gateway.
  - Type option S then press enter.
  - You will be prompted to enter the IP info. Ask instructor for this.
  - Once the information is entered, type “A” and press enter to apply.

```
Status: Press: 'S' and 'Enter' to change network setup
        'P' and 'Enter' to change capture port setup
        'D' and 'Enter' to change capture port forcing full duplex 100Mbps setup
        'H' and 'Enter' to change forcing full duplex 100Mpbs on communication NIC
        'T' and 'Enter' to change network driver (impacts ApplicationVantage Agent)
        'Enter' to verify status
        'X' and 'Enter' to exit
s
Communication port : eth0
IP address: [10.5.0.20]
Network mask: [255.255.0.0]
IP address of default gateway (enter n to leave undefined)
: [10.5.0.1] n
IP address of gateway (enter n to leave undefined): [] n

Hostname: [vantageamd]
Press: 'C' and 'Enter' to cancel and return to the main screen
       'E' and 'Enter' to edit the settings
       'A' and 'Enter' to apply the new settings
```


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LAB – Configuring an AMD using the rtminst command

- The “P” option allows you to turn used ports on and unused ports off. It is a good practice to turn off any unused ports.
  - Type option P then press enter.

- Depending on how you identified the ports in the first part of this lab, this list may not line up cleanly.
  - Type the number of the port you would like to turn off/on and press enter (turn off any not used in class).

```
Press: 'S' and 'Enter' to change network setup
       'P' and 'Enter' to change capture port setup
       'D' and 'Enter' to change capture port forcing full duplex 100Mbps setup
       'H' and 'Enter' to change forcing full duplex 100Mpbs on communication NIC
       'T' and 'Enter' to change network driver (impacts ApplicationVantage Agent)
       'Enter' to verify status
       'X' and 'Enter' to exit
p

Capture ports setup

       '1' - Port A[eth1] : on
       'X' - Exit
Press option key and 'Enter' :
```


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LAB – Configuring an AMD using the rtminst command

- The last option will be either; “H” for forcing half duplex on the comm port or “F” for forcing full duplex on the comm port.
  - If the option shows “F’ then type “F” and then press enter to force full duplex.
  - If the option shows “H” then leave it alone.
  - Verify the status of the AMD and that it is seeing traffic by pressing enter.

```
 Press: 'S' and 'Enter' to change network setup
'P' and 'Enter' to change capture port setup
'D' and 'Enter' to change capture port forcing full duplex 100Mbps setup
'H' and 'Enter' to change forcing full duplex 100Mpbs on communication NIC
'T' and 'Enter' to change network driver (impacts ApplicationVantage Agent)
'Enter' to verify status
'X' and 'Enter' to exit
```


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LAB – Configuring an AMD using the rtminst command

- Once you have verified that the AMD is receiving traffic, type X and press enter to exit.
- Let's take a look at some of the other options available to you.

```
Checking traffic on network devices:
eth1 .....
eth1: 0.3 packets/sec 18.0 bytes/sec 0.0 Kbytes/sec 144 bits/sec
                                                    [ PASSED ]
Checking if traffic is bidirectional                [ PASSED ]
Checking network setup consistency                  [ PASSED ]
Pinging host 192.168.20.60                                  [ PASSED ]
Querying DNS server 192.168.20.2
Checking AMD processes                              [ PASSED ]
Status: === OK ===
```


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LAB – Configuring an AMD using the rtminst command

- The Data memory limit is the maximum allowed data size which the AMD process is allowed to use (in megabytes).

- Always use the default. The only time this option is modified is when memory is added to the AMD.

```
Compuware AMD Installation Toolkit ver. ndw.11.0.503

Options:
        1 - Interface identification
        2 - Diagnostics and network setup
        3 - AMD setup
        4 - System setup verification
        X - Exit
Select an option and press `Enter` :3

Compuware AMD Setup ver. ndw.11.0.503

Options:
        1 - Data memory limit
        2 - Default gateway ping
        3 - Enabling and port selection for data transfer over HTTPS
        4 - Driver parameters set
        X - Exit
Select an option and press `Enter`:
```


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LAB – Configuring an AMD using the rtminst command

- The default gateway ping acts like a heartbeat to ensure that the communication interface is always up. If a negative ping comes back the interface may restart.
- If the default gateway doesn't support ICMP then leave this option off.

```
Compuware AMD Installation Toolkit ver. ndw.11.0.503

Options:
        1 - Interface identification
        2 - Diagnostics and network setup
        3 - AMD setup
        4 - System setup verification
        X - Exit
Select an option and press `Enter` :3

Compuware AMD Setup ver. ndw.11.0.503

Options:
         1 - Data memory limit
         2 - Default gateway ping
         3 - Enabling and port selection for data transfer over HTTPS
         4 - Driver parameters set
         X - Exit
Select an option and press `Enter`:
```


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LAB – Configuring an AMD using the rtminst command

– Option 3 allows you to enable or disable HTTPS communication between the AMD and the VAS and to select the port that will be used for HTTPS communication.

- Type “X” and then press enter to exit AMD setup.
- Type “X” and then press enter again to exit the rtminst command.

```
Compuware AMD Installation Toolkit ver. ndw.11.0.503

Options:
        1 - Interface identification
        2 - Diagnostics and network setup
        3 - AMD setup
        4 - System setup verification
        X - Exit
Select an option and press `Enter` :3

Compuware AMD Setup ver. ndw.11.0.503

Options:
         1 - Data memory limit
         2 - Default gateway ping
         3 - Enabling and port selection for data transfer over HTTPS
         4 - Driver parameters set
         X - Exit
Select an option and press `Enter`:
```


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LAB – Configuring an AMD using the rtminst command

- PART 2 – Verifying data collection
  - When the AMD collects data off the network, it will create files called **zdata** files that contain all the information on the collected data.
  - These files can be found either through the command line or by using the midnight commander (mc).
    - Go to **/var/spool/adlex/rtm** via command line or by using 'mc'.
    - Check if 'zdata_*' files exist.
    - New file should be created every **5 minutes**.

```
-rw-r--r--    1 root     root          774 Aug  2 08:30 zdata_42ef6748_5_b
-rw-r--r--    1 root     root          118 Aug  2 08:35 zdata_42ef6874_5_b
-rw-r--r--    1 root     root          118 Aug  2 08:40 zdata_42ef69a0_5_b
-rw-r--r--    1 root     root          774 Aug  2 08:45 zdata_42ef6acc_5_b
-rw-r--r--    1 root     root          118 Aug  2 08:50 zdata_42ef6bf8_5_b
-rw-r--r--    1 root     root          118 Aug  2 08:55 zdata_42ef6d24_5_b
-rw-r--r--    1 root     root          444 Aug  2 09:00 zdata_42ef6e50_5_b
-rw-r--r--    1 root     root          774 Aug  2 09:05 zdata_42ef6f7c_5_b
-rw-r--r--    1 root     root          118 Aug  2 09:10 zdata_42ef70a8_5_b
```


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ClientVantage Agentless Monitoring

- Periodically, the traffic monitoring software may need to be restarted.
  - **ndstop** - (network delta) will stop the software.
  - **ndstart** - will start the software.
  - **ndstat** - allows you to view the current status of the monitoring software.

```
[root@VM-AMD-v11 ~]# ndstat
=== Installed packages
adlexrtm-ndw.11.0.503-1.el5.i386
jre-1.6.0_07-fcs
adlexv2page-1.11.0-42.el5.i386
adlexpage2trans-1.11.0-28.el5.i386
rtmperf-1.0-28.el5.noarch
adlexsnmp-11.0.8-1.el5.i386
libadlexpcap-1.1-10.el5.i386
adlexcron-1.0.8-1.el5.noarch
tomcat-amd-5.5.26-10.el5.noarch
cpwrdlm-4.1.8-1.el5.i386
rtmgate-11.0.0-28.el5.noarch
avagt-11.0.0-309.el5.i386
Installation type: rtm
```


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LAB – Stopping and starting the AMD

- To ensure that configuration changes take effect, you will stop and restart the AMD.
  - Type **ndstop** and press enter.
  - Type **ndstart** and press enter.

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ClientVantage Agentless Monitoring

- A special AMD console program called **rcon** is provide to mange the AMD.
  - The console is started by typing **rcon**.
  - Once in the console, commands are typed in to achieve the desired result.
  - A few available commands are:
    - **exit** – exits from console
    - **help** – prints help screen
    - **lapp** – prints applications
    - **lsrv** – prints servers
    - **restart** – restarts the system
    - **show ipsessions** – prints information on all known IP conversations
    - **show memory** – Prints status of memory usage

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ClientVantage Agentless Monitoring

- More commands:
  - **show version** – prints software version
  - **show time** – prints current system date and time
  - **show unrecognized** – prints a list of non-recognized potential applications
  - **show uptime** – prints when the system has been started
  - **show urls** – displays all observed URL'S
  - **show status** – prints status of main system modules
  - **shutdown** – stops the system
  - **tcpdump** – AMD's packet saving utility
    - tcpdump 2000 "/tmp/eth1.cap" (this capture 2000 packets from eth1 and save it to a file called eth1.cap in the tmp folder)
    - Tcpdump stop

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LAB – Verifying traffic

To ensure that the AMD is seeing traffic, you will use the console.

– Type **rcon** and press enter to start the console.
  - Type **show status** and press enter to view traffic.

```
[root@adlexpld root]# rcon
Established connection to RTM.
RTM Console, ver. ndw.4.45.17
Log file: /var/log/adlex/rcon.log
Displaying of diagnostic information from probe is disabled
Enable diagnostic messages with DIAG, disable with NODIAG command
$ show status
Current system time: 2005-07-13 13:55:45.336
Version: ndw.4.45.17
Packet buffer mgmnt status:
        allocs:6908915 puts:6884913 gets:6884906 frees:6884884
        Packet size=103 used:8008 (6641169-6633161) of 16001 failed:0
        Packet size=600 used:8006 (173131-165125) of 16001 failed:0
        Packet size=1536 used:8017 (94615-86598) of 16001 failed:0
        Packet size=4096 used:0 (815-815) of 8001 failed:0
Packet receiver status:
        reading from dev: eth2, currently not saving pkts
        packets read:6884913, uses specific RTM network driver with user defined
 apps packet filtering disabled
Filtered wrong tcp checksum 0
        Statistical session filtering: disabled
RTM network driver statistics:
        pkts rcvd:6949995, pkts drppd:0, rx overrun:0, filtered:0, filtered non
TCP/UDP:65075, rejected bad checksum:7, bad alloc:0
        max. queue lngth:61, avg queue length:1 is valid from 2005-07-12 14:47:1
2.302
```


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LAB – Verifying traffic

The next part of this lab is to verify that the traffic seen is bi-directional.

```
>$ show status
Current system time: 2005-07-13 13:58:00.041
Version: ndw.04.40.049
Packet buffer mgmnt status:
        allocs:2719760180 puts:2719748178 gets:2719748163 frees:2719745148
        Packet size=64 used:4007 (1224395679-1224391672) of 8001 failed:0
        Packet size=600 used:5712 (589022134-589016422) of 16001 failed:0
        Packet size=1536 used:5313 (906342367-906337054) of 8001 failed:0
        Packet size=4096 used:42 (4026534-4026492) of 4001 failed:0
Packet receiver status:
        reading from dev:  eth4 eth5, currently not saving pkts
        packets read:2719748178, uses specific RTM network driver with user defi
ned apps packet filtering enabled
Filtered wrong tcp checksum 17491
        Statistical session filtering: disabled
RTM network driver statistics:
        pkts rcvd:4048758367, pkts drppd:0, rx overrun:0, filtered:1325352874, f
iltered non TCP/UDP:3657306, rejected bad checksum:0
        max. queue lngth:3534, avg queue length:6 is valid from 2005-07-04 09:17
:37.211
Analysis manager status:
        Sampling: int: reg/short:300/60 sec, gen: reg/short:2648/13241
                  last times: reg/short:13:55:00/13:58:00
        Sessns (cur/max):unclass:0/0, class:13981/26155, apps:7462/16568, closed
:12648/29531
        Pkts: tot IP:2719748162, tcp:2608399695, udp:55762139, other:55503562, f
rags:65189, bad:0, dbl:25847411 non SYN:14098306
        Lost holes[c/s]:3521566/6776569 bytes[c/s]:2666523727148/1546400673424
        Warning! 8 out of 5607 checked sessions were unidirectional at last samp
ling
```


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LAB – Verifying traffic

Other options to look at in the show status window: next page…

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ClientVantage Agentless Monitoring

Traffic read source

Receiver stats. Drops, ovvrns = 0 (good)

Driver has to be specific

Sampling interval

 # client-server pairs

```
>$ show status
Current system time: 2005-07-14 11:51:55.399
Version: ndw.4.45.17
Packet buffer mgmnt status:
        allocs:21581990 puts:21557988 gets:21557983 frees:21557957
        Packet size=1003 used:8006 (21089258-21081252) of 16001 failed:0
        Packet size=[illegible] used:8014 (340260-332246) of 16001 failed:0
        Packet size=1514 used:8013 (152472-144459) of 16001 failed:0
        Packet size=4096 used:0 (1278-1278) of 8001 failed:0
Packet receiver status:
        reading from dev: eth2, currently not sampling pkts
        packets read:21557988, uses specific RTM network driver with user defined apps packet filte
ring disabled
Filtered wrong tcp checksum 0
        Statistical session filtering: disabled
RTM network driver statistics:
        pkts rcvd:21670148, pkts drppd:0, rx overrun:0, filtered:0, filtered non TCP/UDP:112092, re
jected bad checksum:67, bad alloc:0
        max. queue lngth:62, avg queue length:1 is valid from 2005-07-12 14:47:12.302
Analysis manager status:
        Sampling: int: reg/short:300/60 sec, gen: reg/short:529/2644
                  last times: reg/short:10:50:00/10:51:00
        Sessns (cur/max):unclass:0/0, class:1634/3361, apps:699/1624, closed:270/2116, lb:0/0
        Pkts: tot IP:21557982, tcp:19144742, udp:1454005, other:959186, frags:50, bad TCP chksum:0,
 bad:0, dbl:424 non SYN:325621
        Lost holes[c/s]:1492/18643 bytes[c/s]:16502008/24648853 Rtt entries:0
Application mapper status:
        Num:1469 Services: 91 protocols: 1404
Data saver status:
        out dir: /var/spool/adlex/ del samples after: 192 hours
        saved samples:1587, last sample:10:50:00, save t:10:50:00
```

# of de-duplicated packets

# of packets in sessions w/o SYN packet

Last sample save time

Apps recognized in the traffic

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ClientVantage Agentless Monitoring

- Every AMD contains a number of log files that record the performance, environment status, and configuration changes of the device.
- The AMD log files are located in the /var/log/adlex directory of each AMD.
  - Refer to the AMD Install Guide, **cvamamdinstall.pdf** *(Need to share)*, for a full list of log files.
- Some files available are:
  - **config-change.log** – displays changes to the configuration files of the AMD.
  - **rcon.log** – contains a screen dump from the console application including all entered user commands and AMD responses.
  - **rtm.log** – displays the diagnostic information about the AMD.
  - **rtmgate.log** – displays the log from HTTP and GATE services responsible for communications between the AMD and the report server.

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- Every AMD also contains two main configuration files located in /usr/adlex/config.
  - **rtm.config** – actually tells AMD what to do. Four sections. As a best practice, the third section should be modified by the GUI (VCAEUE).
  - **rtm.config.defaults** – comprehensive list of parameters used within rtm.config. It explains what each parameter does and the possible values to use.
    - Look at it as a help file which does nothing. Do not edit this file!

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ClientVantage Agentless Monitoring

- To stop and start the AMD, establish an SSH (secure shell) session to the IP address of the AMD.
- The traffic monitoring software is started and stopped using the commands
  - **ndstart** and **ndstop** on the Linux command line prompt.
- Alternatively: **service rtm start|stop|restart**
- To view the current status of the traffic monitoring software, execute **ndstat**.
- A special AMD console program called **rcon** is provided to manage the traffic monitoring software.

```
[root@VM-AMD-v11 adlex]# ndstop
Shutting down RTM Probe:                                   [  OK  ]
Shutting down v2page converter:                            [  OK  ]
Shutting down page2trans converter:                        [  OK  ]
Shutting down RTMGATE:                                     [  OK  ]
Stopping AV Agent:                                         [FAILED]
[root@VM-AMD-v11 adlex]# ndstart
Starting RTM Probe:
Starting RTM please wait...
Done. RTM is running.
                                                           [  OK  ]
Starting v2page converter: Starting v2page converter please wait...
Done. v2page converter is running.
                                                           [  OK  ]
Starting page2trans converter: Starting page2trans converter please wait...
Done. page2trans converter is running.
                                                           [  OK  ]
Starting RTMGATE: Starting RTMGATE please wait...
Done. RTMGATE is running.
                                                           [  OK  ]
Starting AV Agent:                                         [  OK  ]
[root@VM-AMD-v11 adlex]# _
```


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Command Summary

Command	Description
rtminst	Used to initially set up and configure AMD
ndstop	Stops rtm probe service
ndstart	Starts rtm probe service
ndstat	Shows what packages and versions have been installed on the AMD and what is running
service rtm restart	This is used to just restart the RTM process and reload config
rcon	Used to hook into the rtm probe to perform diagnostics.

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Summary

- **At this point, you should be able to:**
  - Access the AMD interface.
  - Understand basic Linux commands.
  - Understand basic AMD commands.
  - Understand data structures and directories on the AMD.
  - Test AMD connectivity and data collection.
  - Perform AMD configuration and diagnostics.
  - Navigate AMD configuration files.
  - Navigate AMD log files.

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VCAEUE, VAS, and AWDS Administration

This topic discusses the VCAEUE, VAS, and AWDS software components. Within this topic, navigation, administration, configuration and setup will be discussed.

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Objectives

By the end of this section, you should be able to:

- Access and navigate the VAS and VCAEUE interfaces
- Connect the Agentless components in the VCAEUE
- Understand and configure application definitions
- Configure VAS and VCAEUE for data collection
- Configure alarms
- Configure AWDS
- Understand and configure security groups
- Perform report and database administration

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ClientVantage Agentless Monitoring

- The Vantage Analysis Server (VAS) provides real time access to information about the performance and usage of enterprise applications.
- It monitors individual users of your business applications with the purpose of identifying when and where problems occur and how to address them.
- The information provided by the VAS is aligned with the business structure of the organization such as branches, working groups and business units.
- The data is delivered via comprehensive, interactive, service oriented reports and event driven alarms to inform about important events such as performance degradation and traffic pattern anomalies.

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ClientVantage Agentless Monitoring

- To understand how ClientVantage Agentless Monitoring uses network or application header data to analyze network traffic, we need to first understand how computers communicate over IP-based protocols, or other packet-based models.
- To illustrate these communications, we will examine how a browser communicates with a web server.

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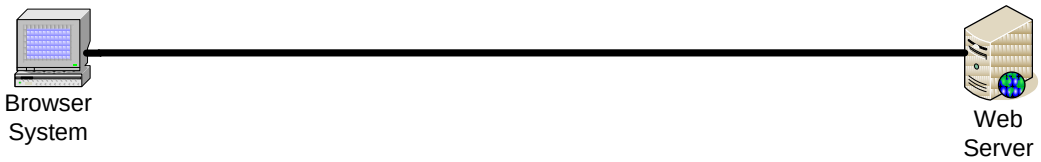
ClientVantage Agentless Monitoring

- What steps are involved when a URL is entered in a browser, and the submit or “Go” button is clicked?



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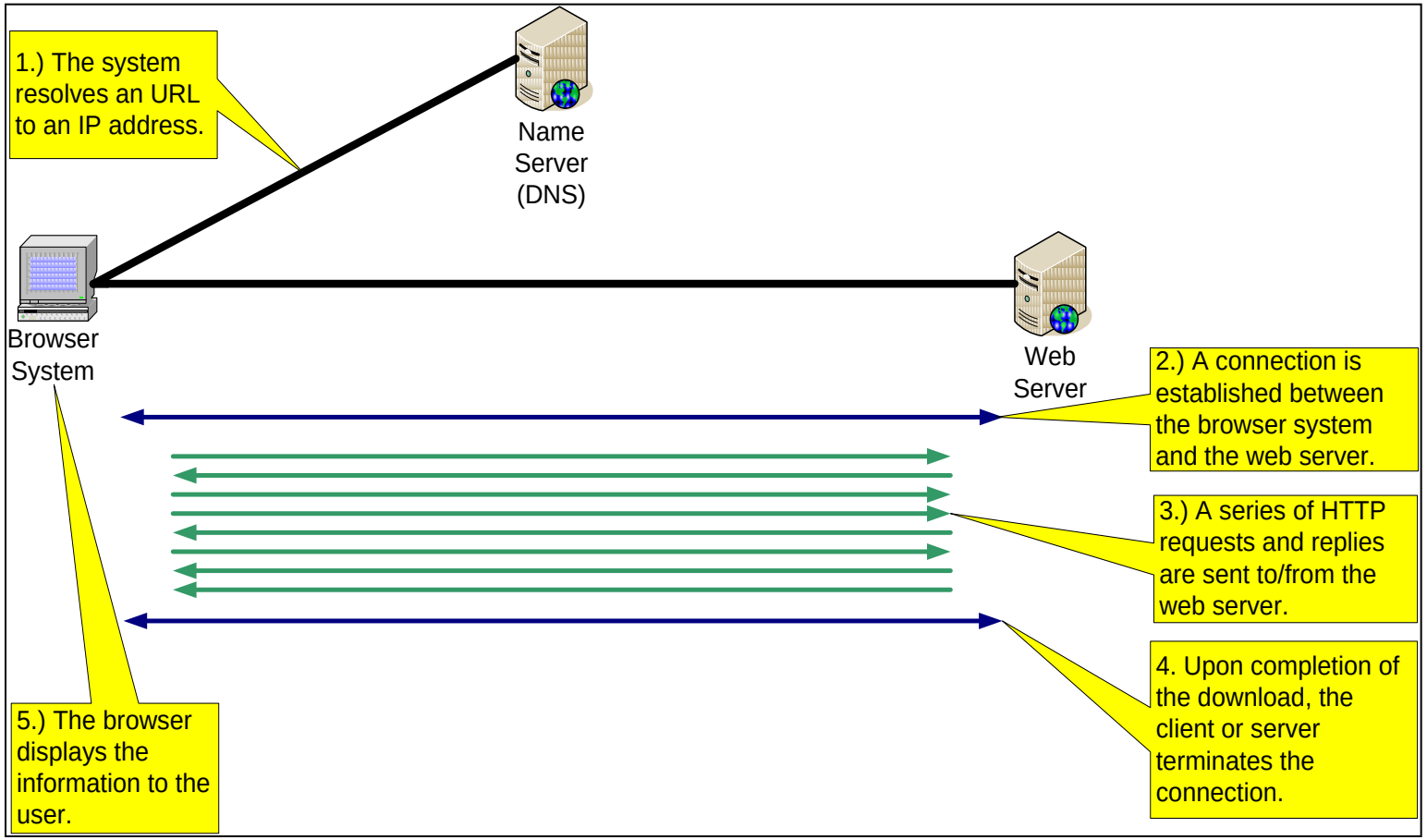
ClientVantage Agentless Monitoring

- What steps are involved when a URL is entered in a browser, and the submit or “Go” button is clicked?



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ClientVantage Agentless Monitoring

- The download of a single web page serves as a good model of how TCP-based communications operate.
- However, there are many more steps to consider in this process.
- Let's take a deeper look at how data is actually transferred between these systems.
- We will start with viewing the data transfer from the perspective of the OSI model for network communications.

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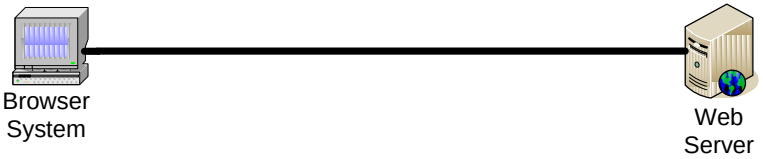
OSI Model

- The OSI model provides a good reference model for how data is packaged for delivery across a network.



HTTP Request (TCP/IP Communications Example)			
OSI Layer	**Client**		**Server**
7.) Application	The browser application forms an HTTP request.		The web service interprets the request, and delivers the appropriate HTTP reply.
6.) Presentation	The browser formats the request to the proper text stream to be sent across a network.		The re-assembled packets form an HTTP request which is passed to the web service.
5.) Session	A connection or session is opened to the web server (TCP Handshake). Once established the HTTP request is sent to the server.		The packets are re-assembed for the correct session or open connection. Connection status is maintained or closed based on the packets received.
4.) Transport	The operating system divides the request into "chunks" or packets. It also adds a header to the data to keep track of sequence numbering for these packets, and control how data will be transmitted across the network. (e.g. Port Numbers)		The packets are checked to ensure that they have arrived correctly and in the correct sequence. The transport encapsulation is stripped from the packet by the operating system.
3.) Network	The operating system adds an additional header for each packet to add routing information (e.g. IP addresses).		The network encapsulation is stripped from the packet by the operating system.
2.) Data-Link	The packet is further encapsulated by the operating system as the data is transferred to the NIC. Additional addressing is inclided to include physical machine addressing (e.g. MAC addresses).		The data-link encapsulation is stripped from the packet by the operating system.
1.) Physical	The network interface card (NIC) processes the packet and converts the data to electrical impulses for transfer to the network cabling.		The network card interprets the electrical signals and translates them into bytes.

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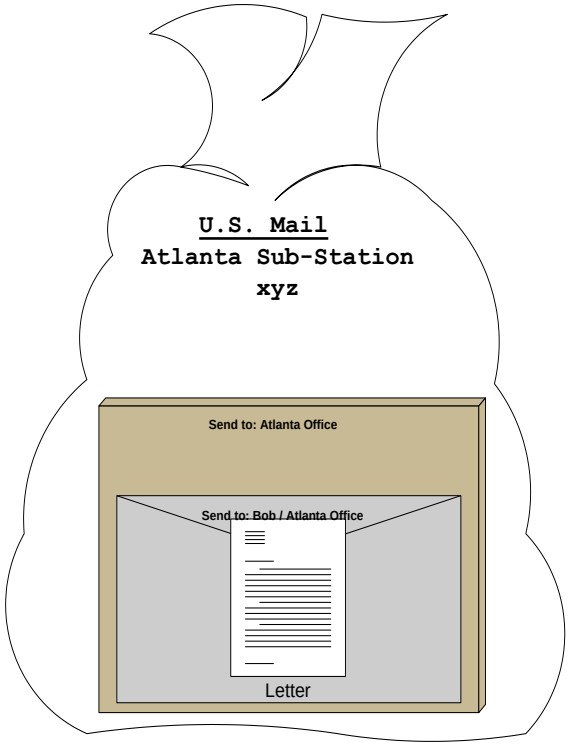
ClientVantage Agentless Monitoring

- The packaging outlined by the OSI reference model may also be considered in much the same way as how a letter is delivered.
- Essentially, encapsulation is used to “wrap” the data transferred in envelopes which provide routing and delivery information.
- This encapsulation may be compared to how a letter is sent through the mail. Each additional “routing” step may require an additional envelope or header.



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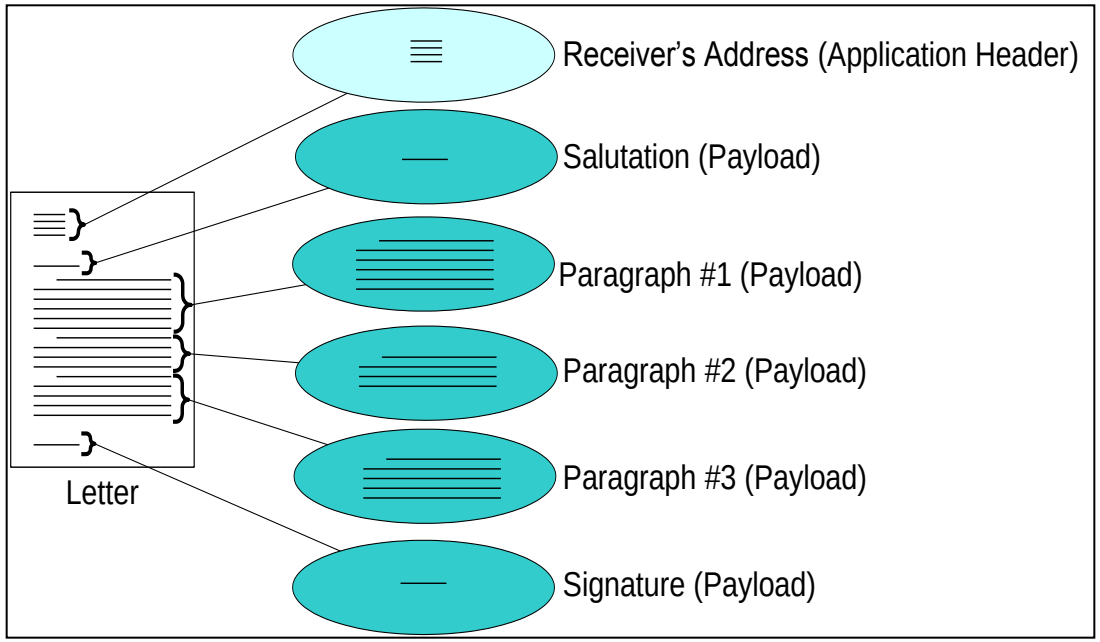
ClientVantage Agentless Monitoring

- Even within the letter, or application itself, additional header information may be required.
- Do you know of any applications that require additional header information (beyond the data in the network header) to transfer data?



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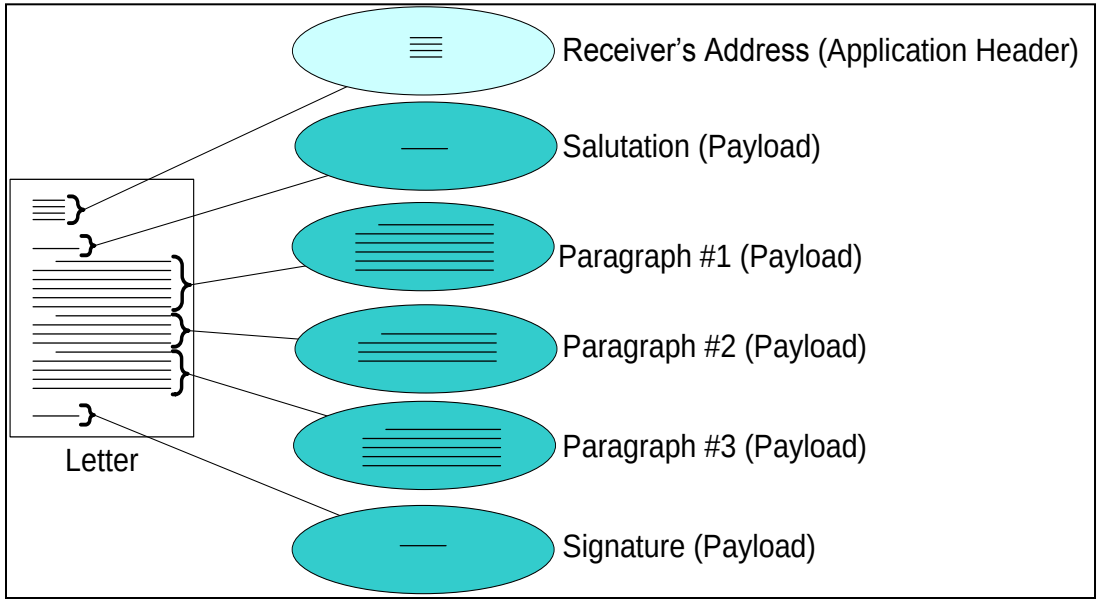
ClientVantage Agentless Monitoring

- Even within the letter, or application itself, additional header information may be required.



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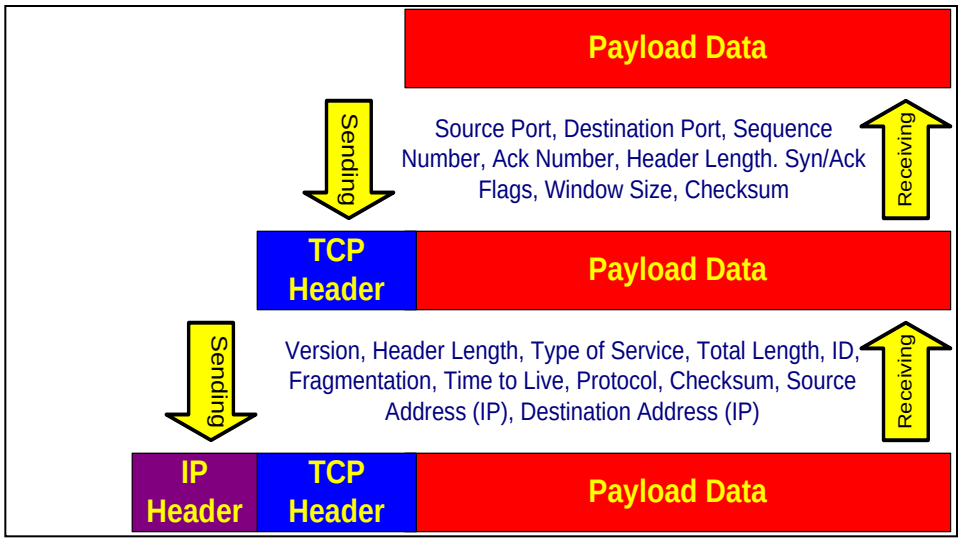
ClientVantage Agentless Monitoring

- A generic way of visualizing packets as they exist on a network is to consider that a packet is comprised of 2 main parts; a header, and a payload.
  - The payload is the actual data being transferred, including any required application headers.
  - The header is the information required to route data from one computer to another. The header is made up of many different sub-headers for each layer of encapsulation.



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LAB – Accessing the VAS

- After configuring and setting up the AMD, you need to make sure that the VAS is connected correctly, accessible remotely and collecting data from the AMD.

- In this lab you will access the VAS by first logging onto the host VAS machine and then logging into the VAS report server software. You will also use the VCAEUE Console to connect Vantage Devices and perform any Agentless Configurations.

  – If you haven't done so already, boot the VAS machine

  – At the login screen, type the username and password

    - Username: ask instructor (commonly "superuser")

    - Password: ask instructor (commonly blank or "greenmouse")

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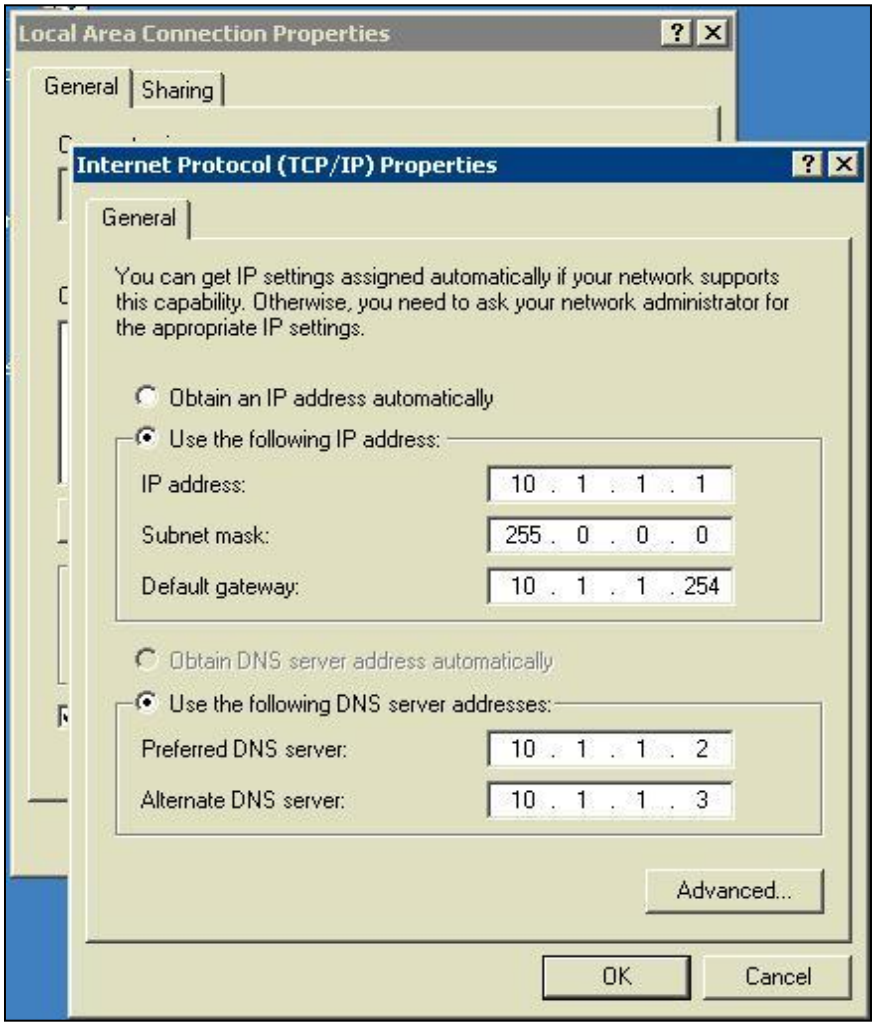
LAB – Accessing the VAS

- You will also need to verify the connection to the AMD
  - Step 1) Establish: IP, mask, gateway, and hostname
  - Step 2) Verify communication exists to AMD (ping)
    - *Verify the ip address settings for the vm image*



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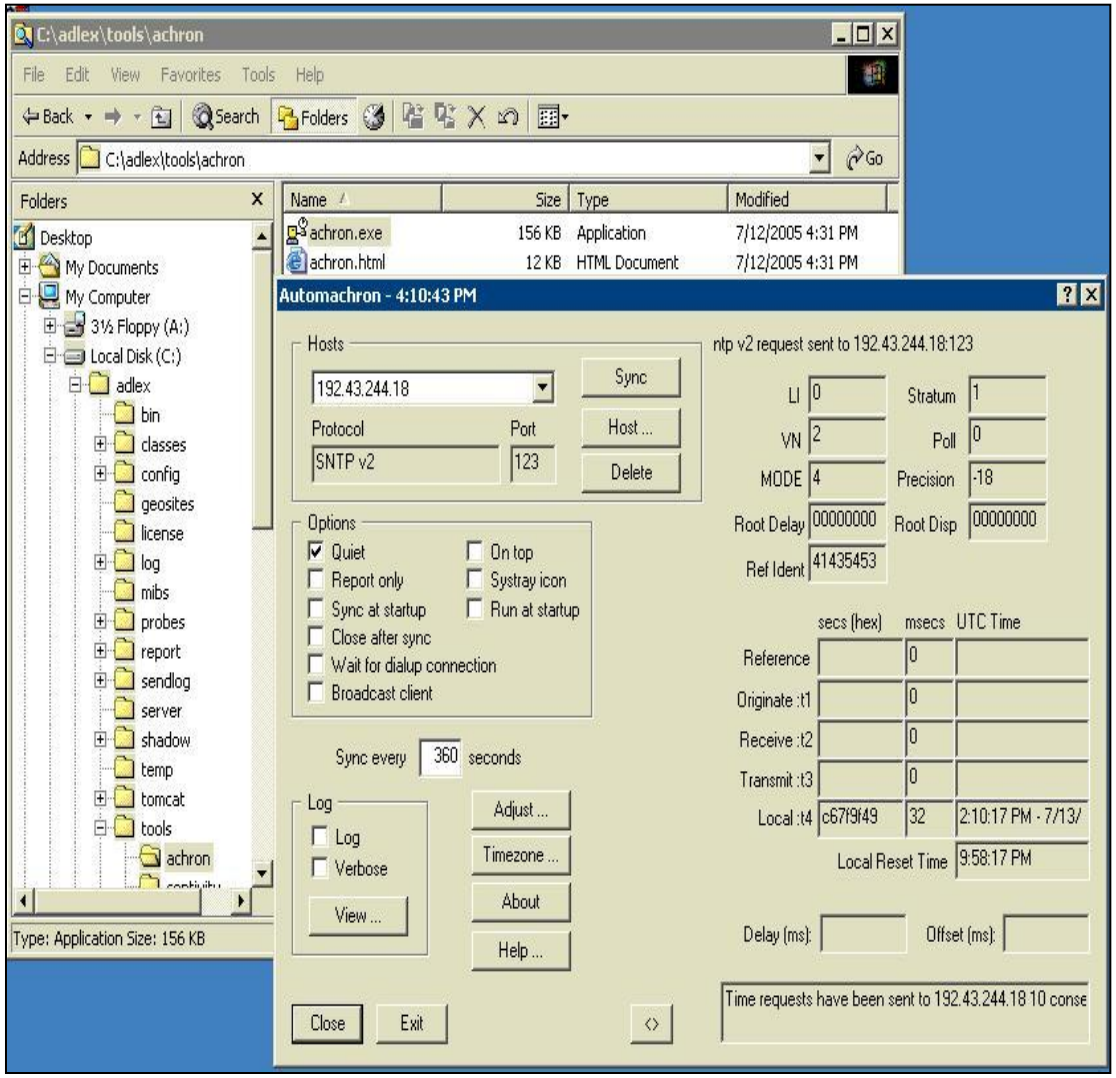
LAB – Accessing the VAS

- You will also need to establish time synchronization.
- The VAS will be master to all the AMDs.
- Automachron (achron.exe) is a utility that is included with the VAS at install. It is used to synchronize with a Network Time Protocol (NTP) server.
- Hint: If NTP server doesn't respond, but you're sure it's there, try to configure it with its DNS name instead IP address.



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LAB – Accessing the VAS

- Once you have logged into the VAS you will need to open the VAS report server software.
- The report server is accessed either remotely through a browser using the IP address and Port number or locally through Internet Explorer.
  - Open Internet Explorer
    - If the VAS login screen does not appear, type http://localhost/
    - Click the word “Login”
  - You will login using the superuser login
    - Username: superuser
    - Password: ask instructor (might be <blank> or greenmouse for class)

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VCAEUE – Vantage Configuration for Agentless End-User Experience

- The VCAEUE consists of server and client components. Usually they are both installed on the VAS.
- The VCAEUE client can also be installed stand-alone and configured to access the VCAEUE server component.
- After the hardware is installed and configured to communicate on your network, the next step to installing ClientVantage Agentless is connecting all of your Agentless Components Via the VCAEUE.
- The VCAEUE is a new Vantage 11 component used to connect Agentless devices to each other as well as to other Vantage components (ex. CV Active Agent Manager, COS, NV Probe).
- The VCAEUE is also used to configure Agentless to collect data.

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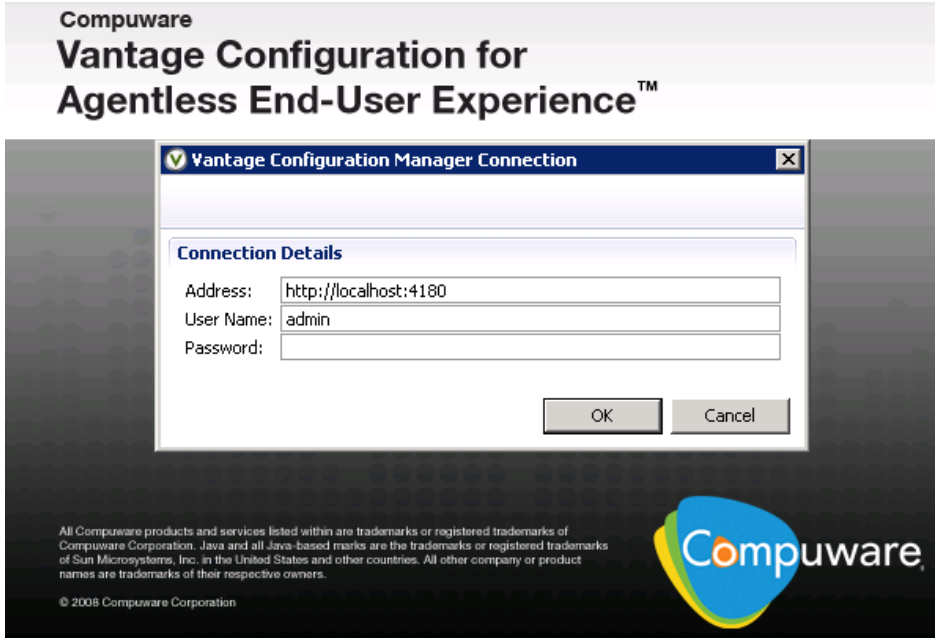
LAB – Login to the VCAEUE

- Out of the box, the AMD will not be reporting to the VAS or AWDS so you will need to add the AMD to the VCAEUE and assign it to a report servers in order to view collected data metrics.

- You will be begin by logging in to the VCAEUE Console.
  - Address: http://<servername>:4180
  - Default username: admin
  - Default password: <blank>



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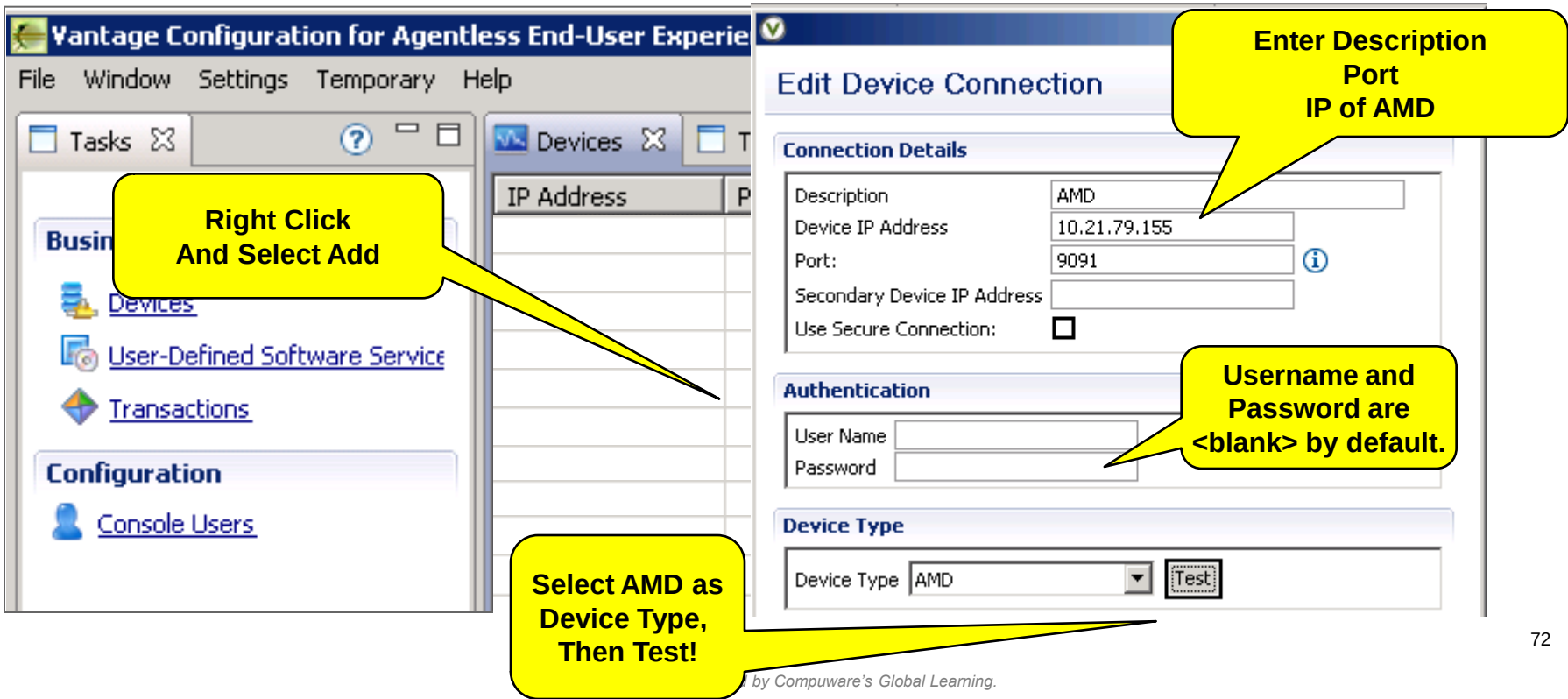
LAB – Adding an AMD to the VCAEUE

- Under the Devices tab right click below and select the Add Option.
- In the Add New Device Window specify the Description of the Device, the IP address, and the port (9091 by default).
- In the Authentication section both username and password are blank by default for the AMD.
- Then select AMD for the Device Type and Test the Connection.
- Click OK to submit.



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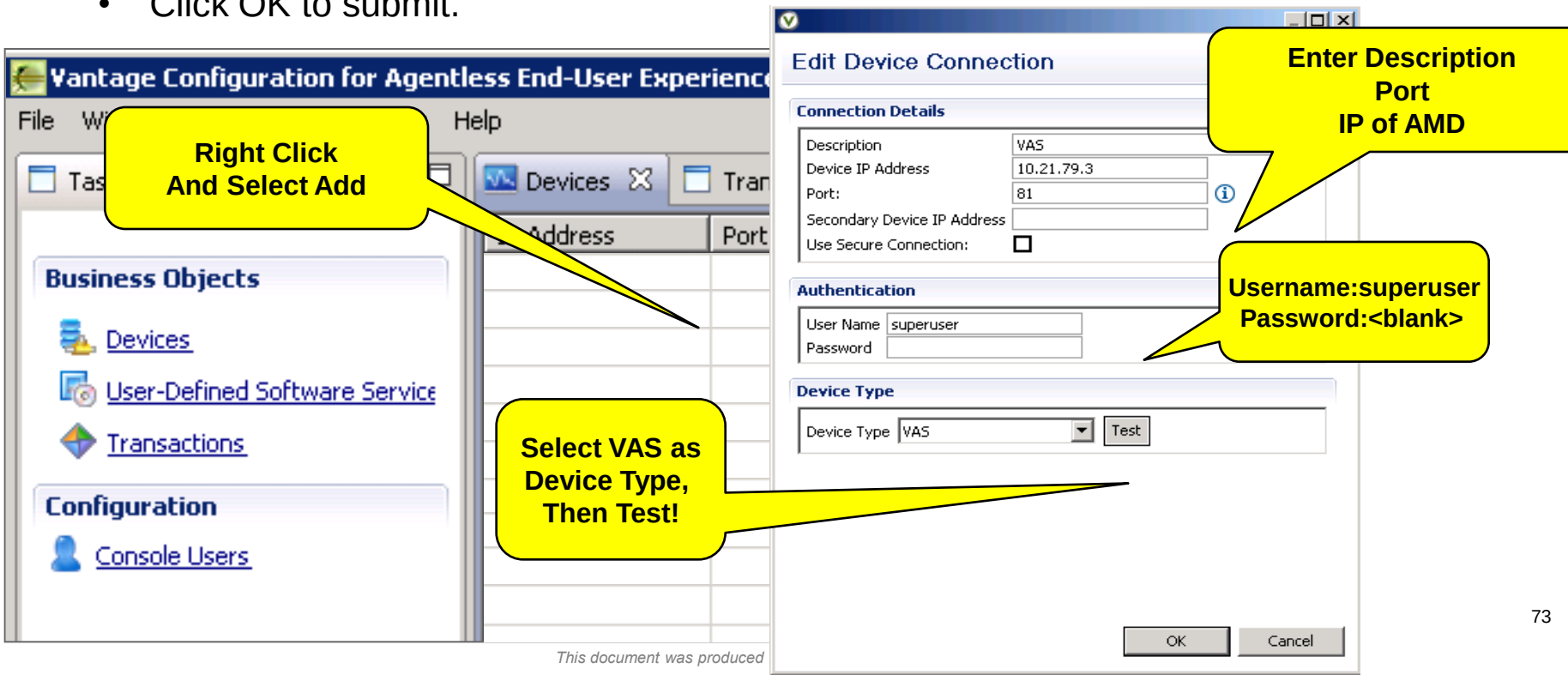
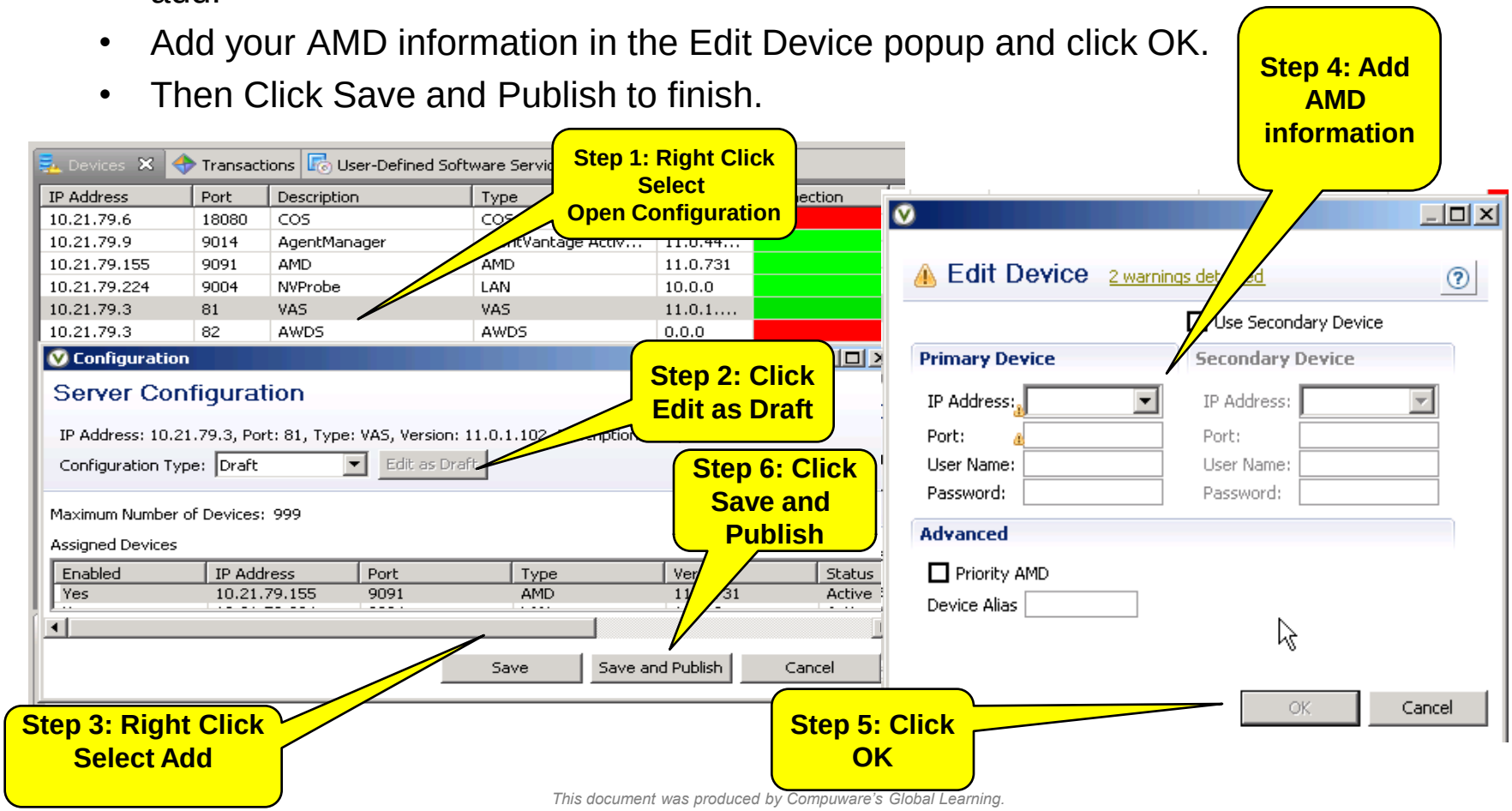
LAB – Adding a VAS to the VCAEUE

- Now you need to add the VAS to the VCAEUE.
- Under the Devices tab right click below and select the Add Option.
- In the Add New Device Window specify the Description of the Device, the IP address, and the port (type 80 if your using the default).
- In the Authentication section the username is superuser and the password is blank by default for the VAS.
- Then select VAS for the Device Type and Test the Connection.
- Click OK to submit.



LAB – Adding an AMD to the VAS through the VCAEUE

- Finally you add the AMD to the VAS through the VCAEUE.
- The AMD and VAS should now appear in your devices tab. Right click on the VAS and entry and select Open Configuration.
- Click on Edit As Draft button, then right click in the space below and select add.
- Add your AMD information in the Edit Device popup and click OK.
- Then Click Save and Publish to finish.



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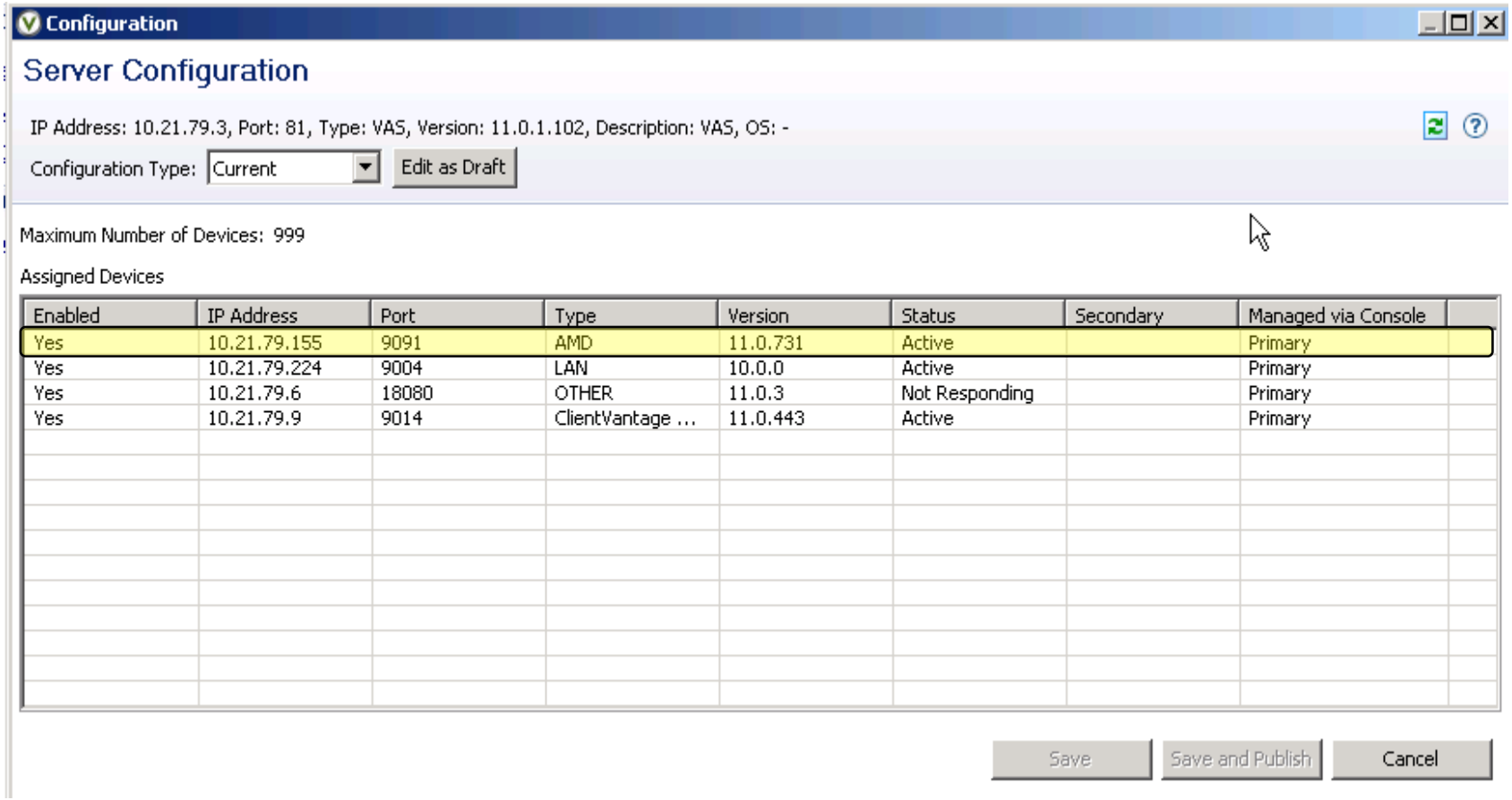
ClientVantage Agentless Monitoring

- Once the AMD has been added, you should see it listed with a Status of Active.



Enabled	IP Address	Port	Type	Version	Status	Secondary	Managed via Console
Yes	10.21.79.155	9091	AMD	11.0.731	Active		Primary
Yes	10.21.79.224	9004	LAN	10.0.0	Active		Primary
Yes	10.21.79.6	18080	OTHER	11.0.3	Not Responding		Primary
Yes	10.21.79.9	9014	ClientVantage ...	11.0.443	Active		Primary

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ClientVantage Agentless Monitoring

- The next step in the configuration process is to define Software Services and traffic to collect usage, performance and availability metrics on.

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ClientVantage Agentless Monitoring

- If your company has a specific business application that runs over HTTP communications, you could simply monitor HTTP traffic and analyze the collected data.
- However, since many applications communicate using HTTP, it may not be granular enough to separate the different apps that are using it.
- Because of this, it may be necessary to further define what separates one application from another.
- Port numbers, specific URL's, and protocol types can all be used to further define your applications.
- Client Vantage Agentless 11 uses Software Services instead of previous versions definition 'Application' to Define groups of Server IP addresses communicating over a single port.
- After defining your Software Services, Agentless 11 allow you to create Applications based on them. Then after defining Applications, Transactions can be associated with them.

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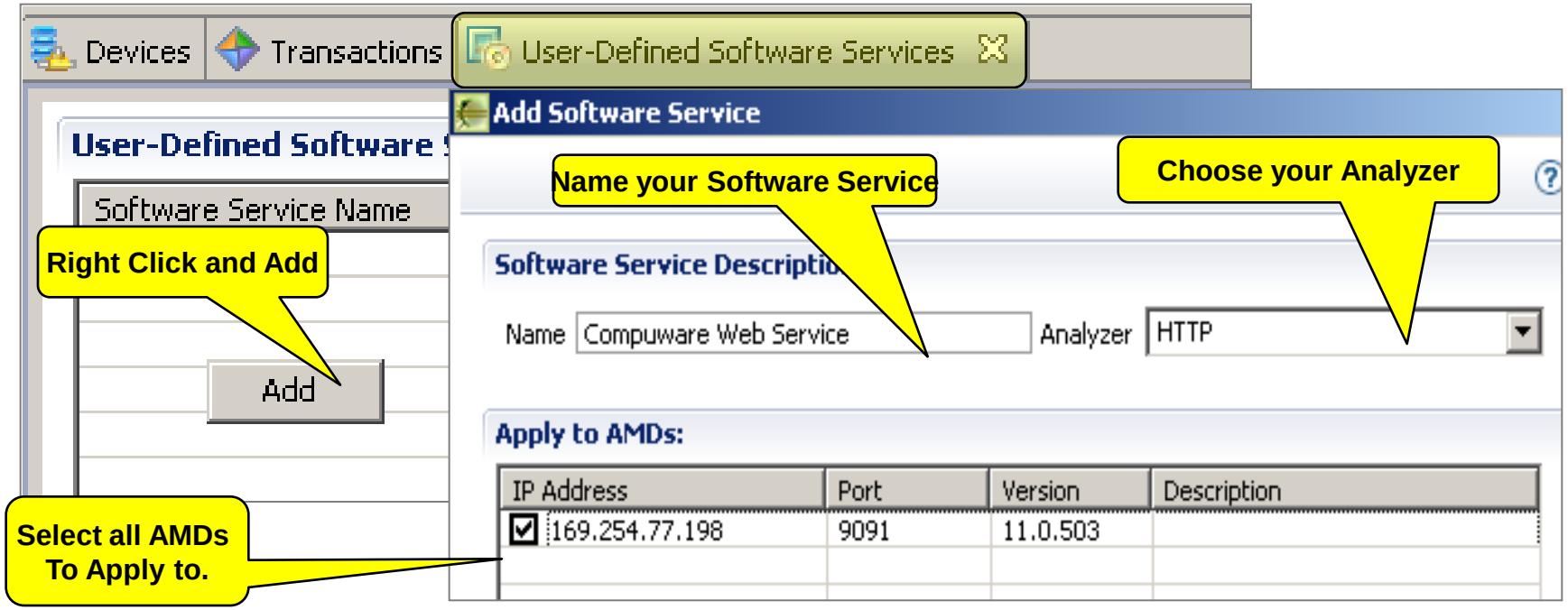
LAB - Configuring a Software Service definition.

- In this lab, you will create a Software Service definition for a HTTP Service.
  - In the VCAEUE Console on the User-Defined Software Tab, right click Add.
  - Give your Software Service a name
  - Select HTTP for the Analyzer
  - Place a check box next to any of the AMDs that you want to apply the new Software Service to.
  - Click OK.



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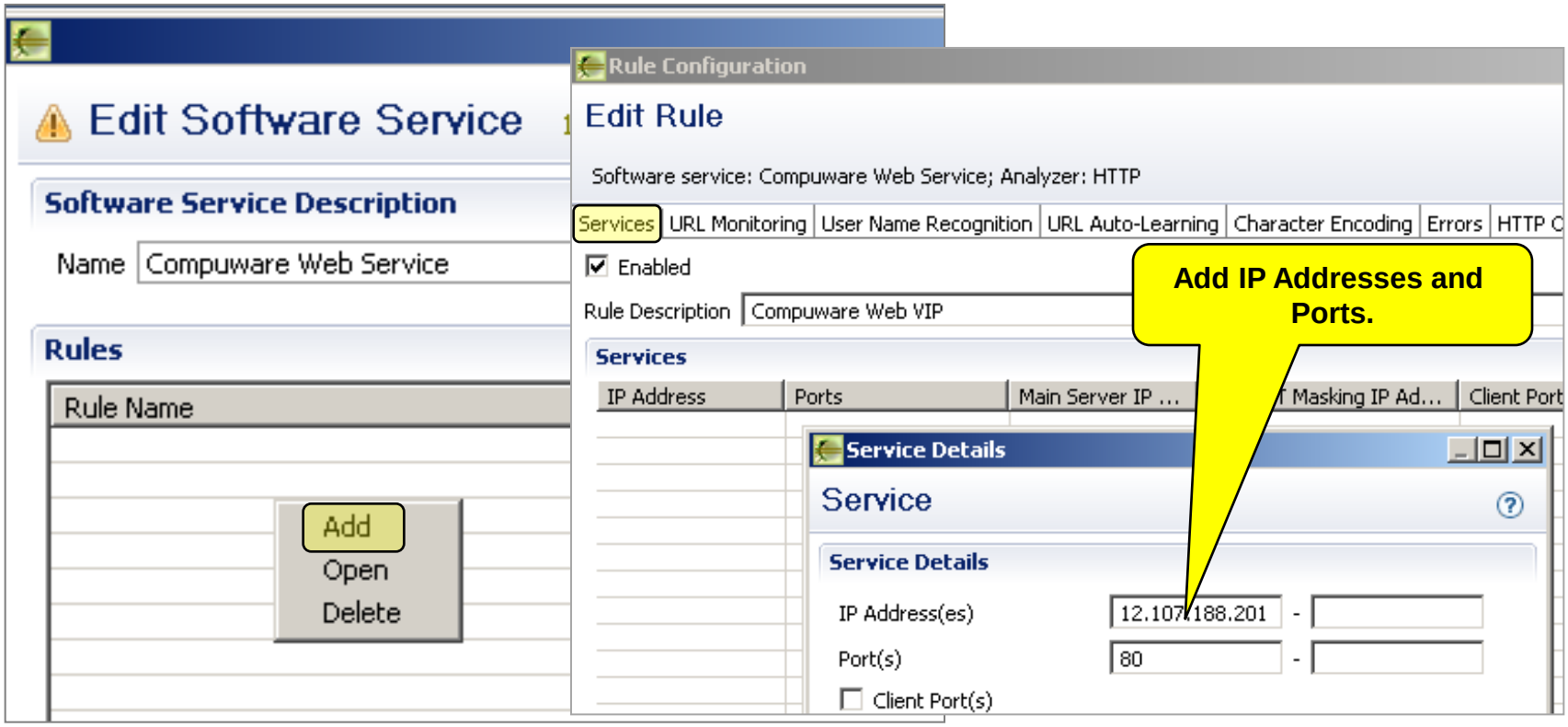
LAB - Configuring a Software Service definition.

- Now we can create rules for our new Software Service.
- Right Click and Select Add from the Rules section.
- Under the Services Tab Right Click and Select Add from the Services section.
- Add IP addresses and Ports to be monitored.



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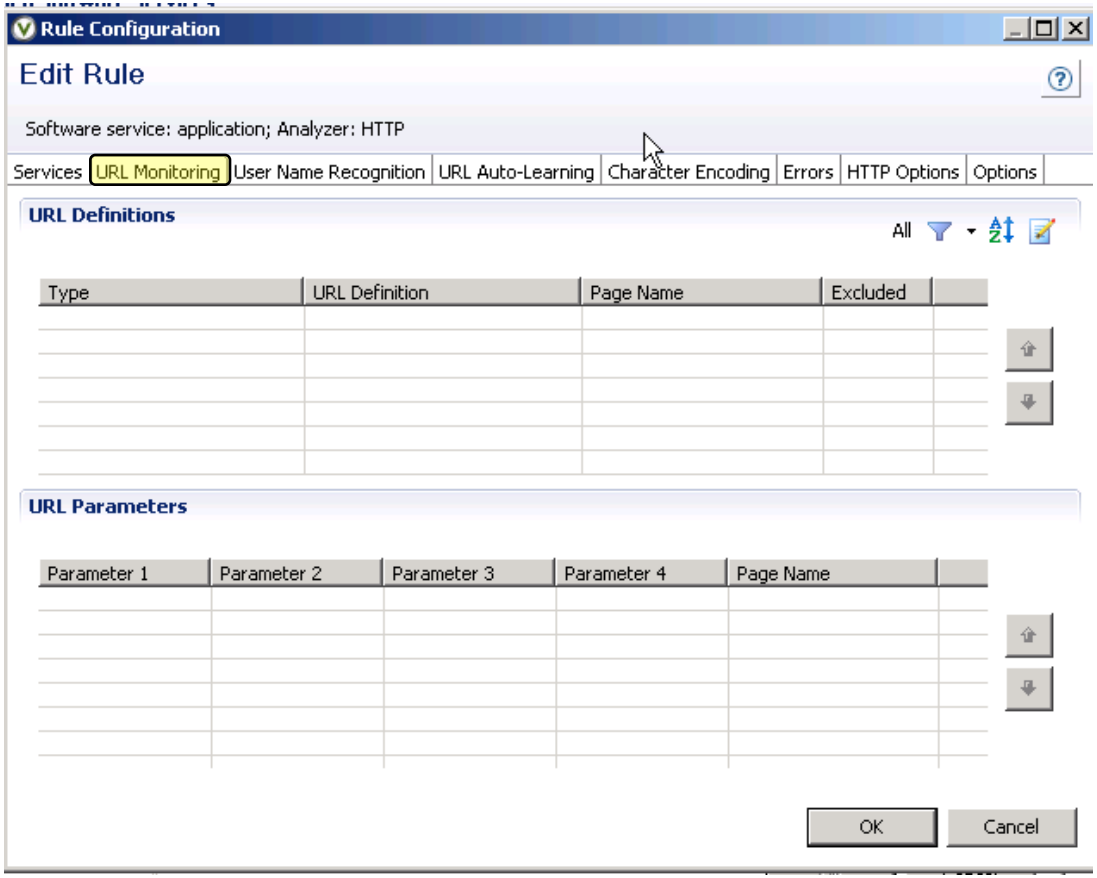
LAB - Configuring a Software Service definition.

- The URL Monitoring tab allow you to define your software service more specifically by URL and URL Parameters. You can specify which URLs to include and which to exclude.



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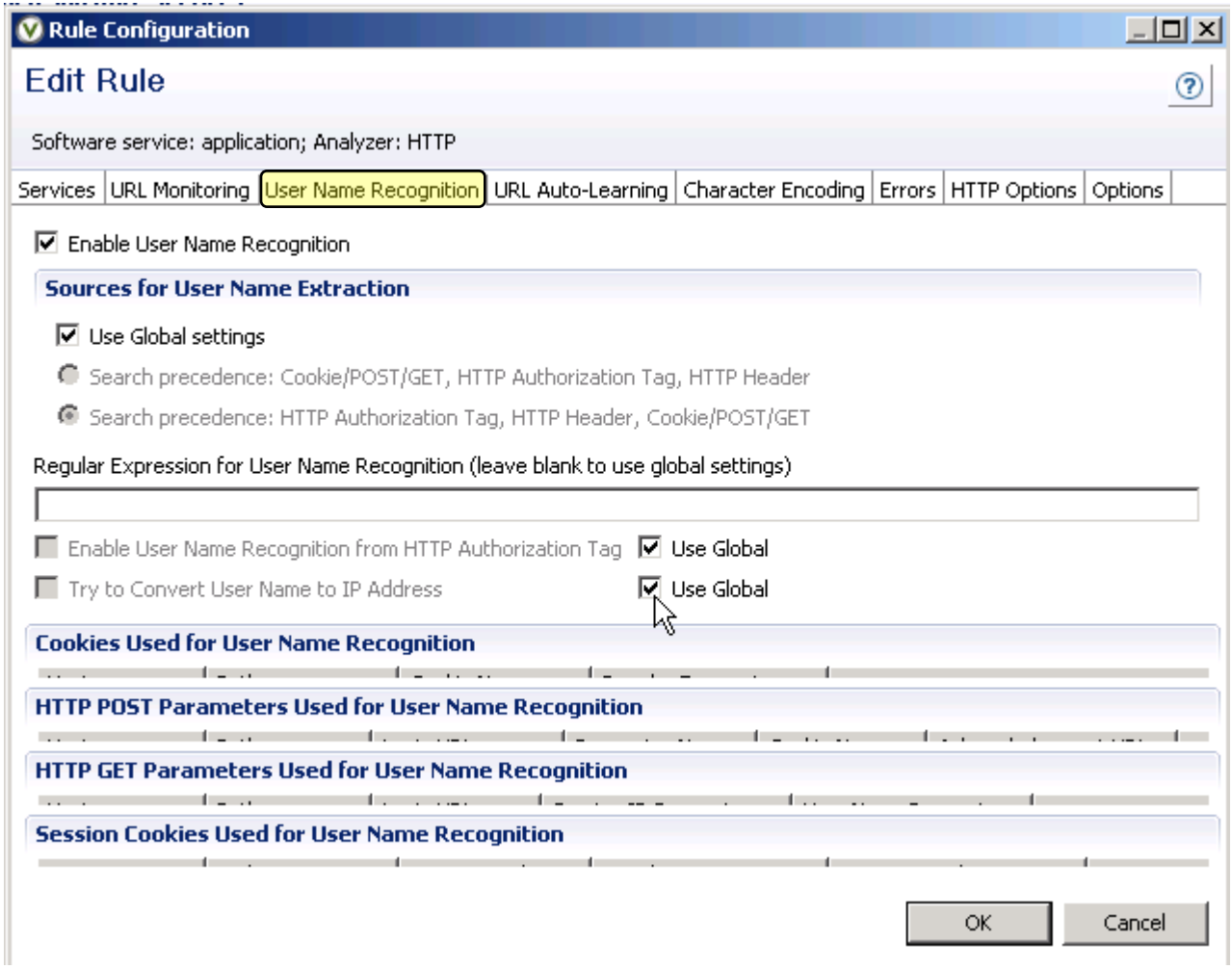
LAB - Configuring a Software Service definition.

- The User Name Recognition Tab is used extract usernames from HTTP cookies, Posts, or Gets.



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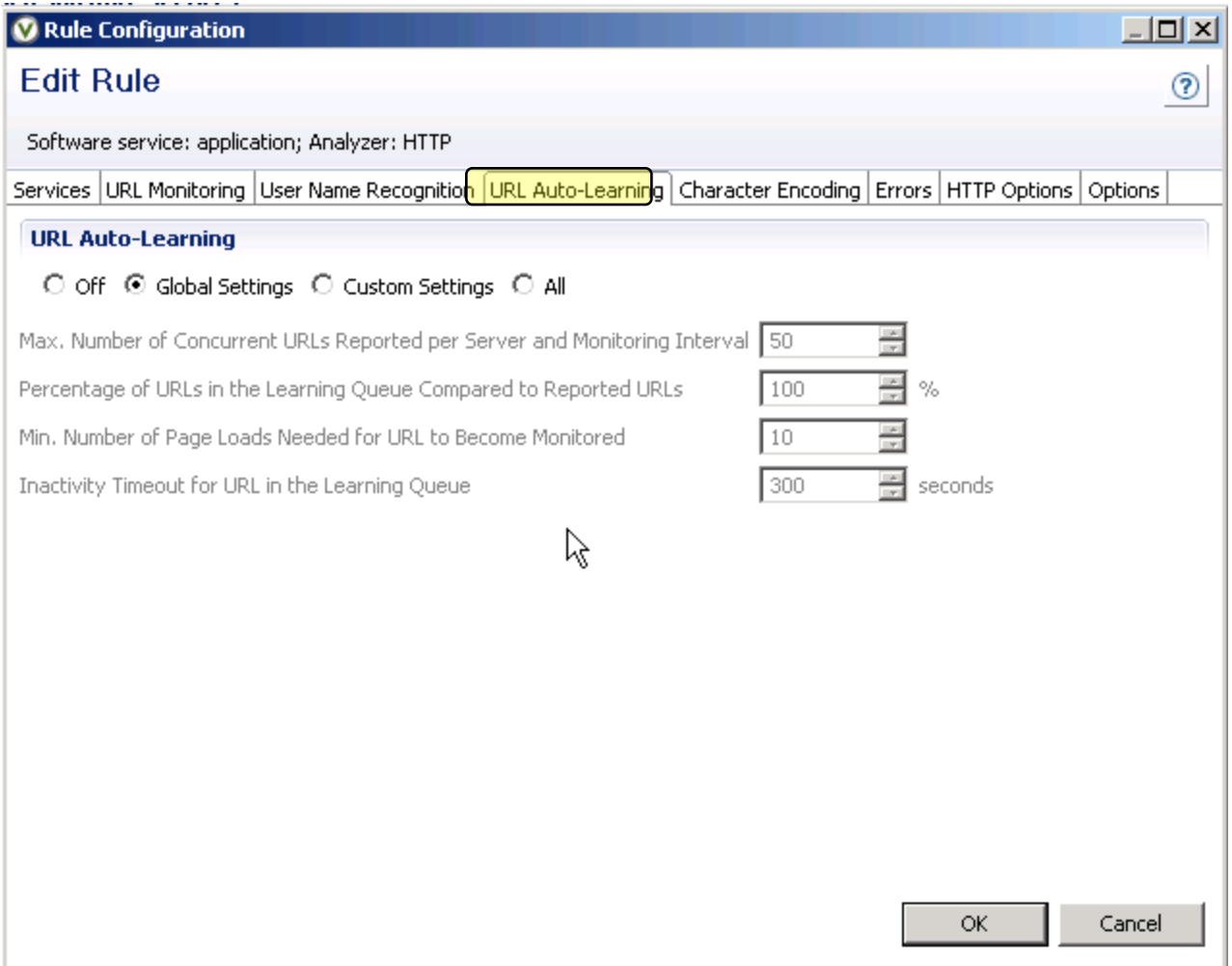
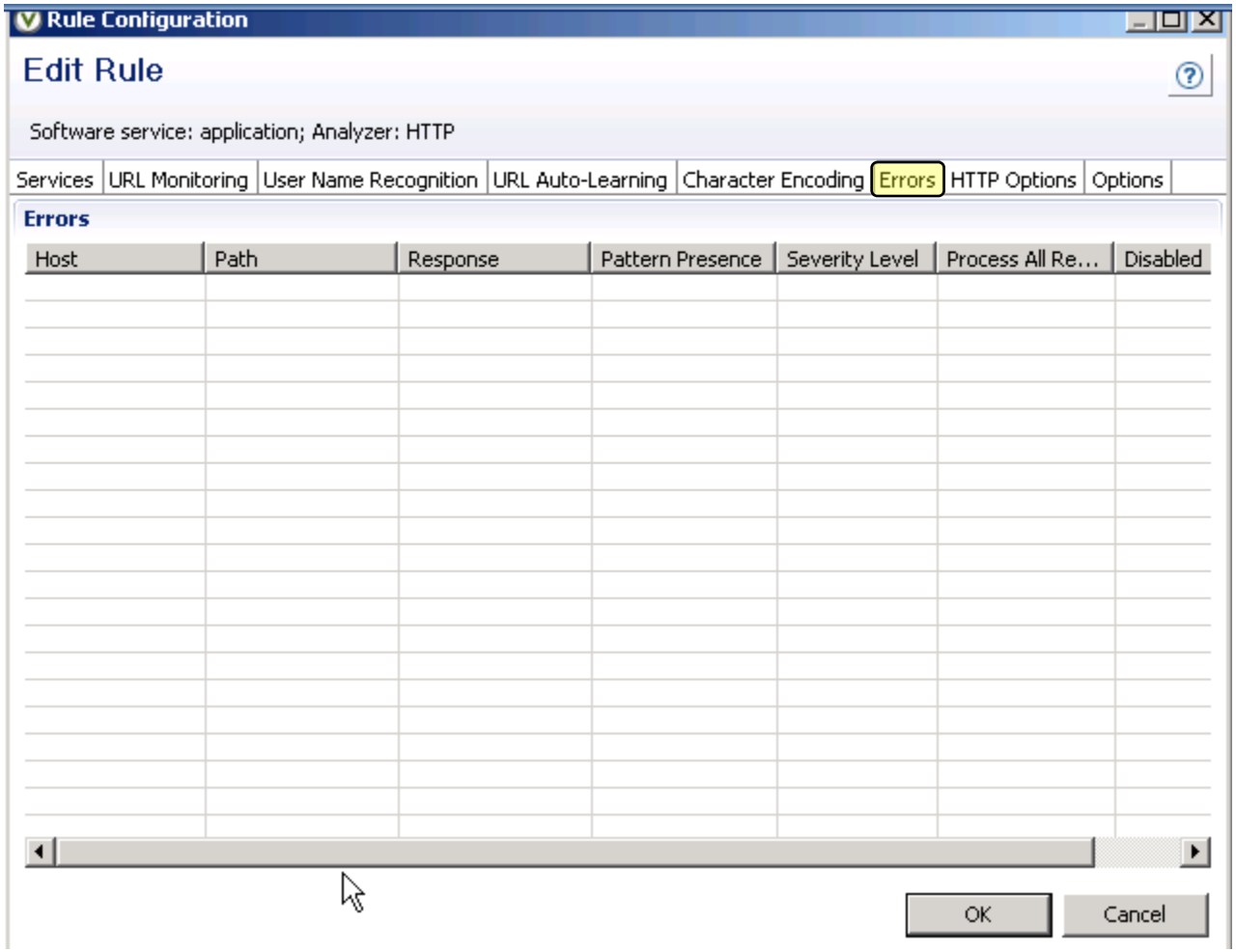
LAB - Configuring a Software Service definition.

- The URL auto-learning feature enables you to define the set of URLs appearing in per-URL reporting statistics, without the need to manually define each URL. The URLs that are found frequently—learned—are reported.



LAB - Configuring a Software Service definition.

- The Errors tab allows you to create custom HTTP Application errors.



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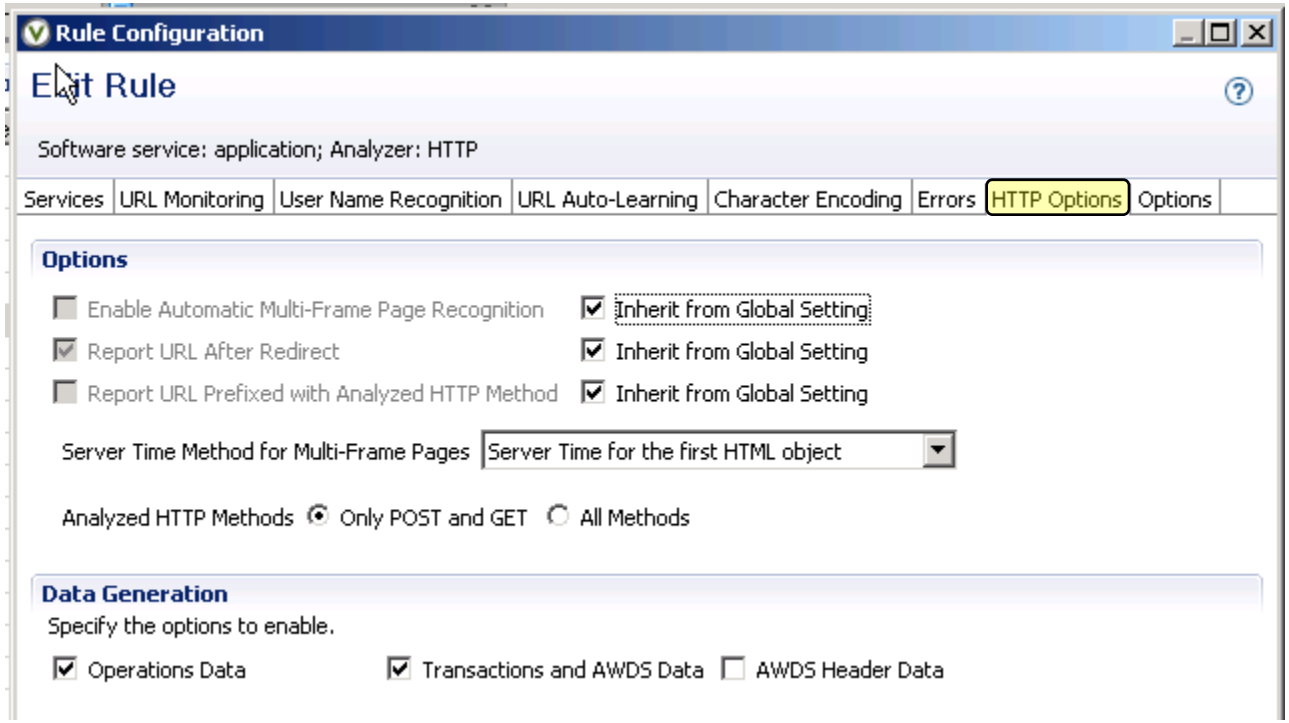
LAB - Configuring a Software Service definition.

- The HTTP Options tab contains the following settings:
  - Enable Automatic Multi-Frame Page Recognition– This option allows you to recognize multi-frame pages as single HTML pages.
  - Report URL after redirect – reports any addresses after a redirection.
  - Report URL Prefixed with Analyzed HTTP Method– will distinguish between these methods when reporting URLs.
  - Operations Data – enables filtering per server IP address or selected URL address.
  - Transactions and AWDS Data – enables vdata and page data generation.
  - AWDS Header data – enables header data generation.



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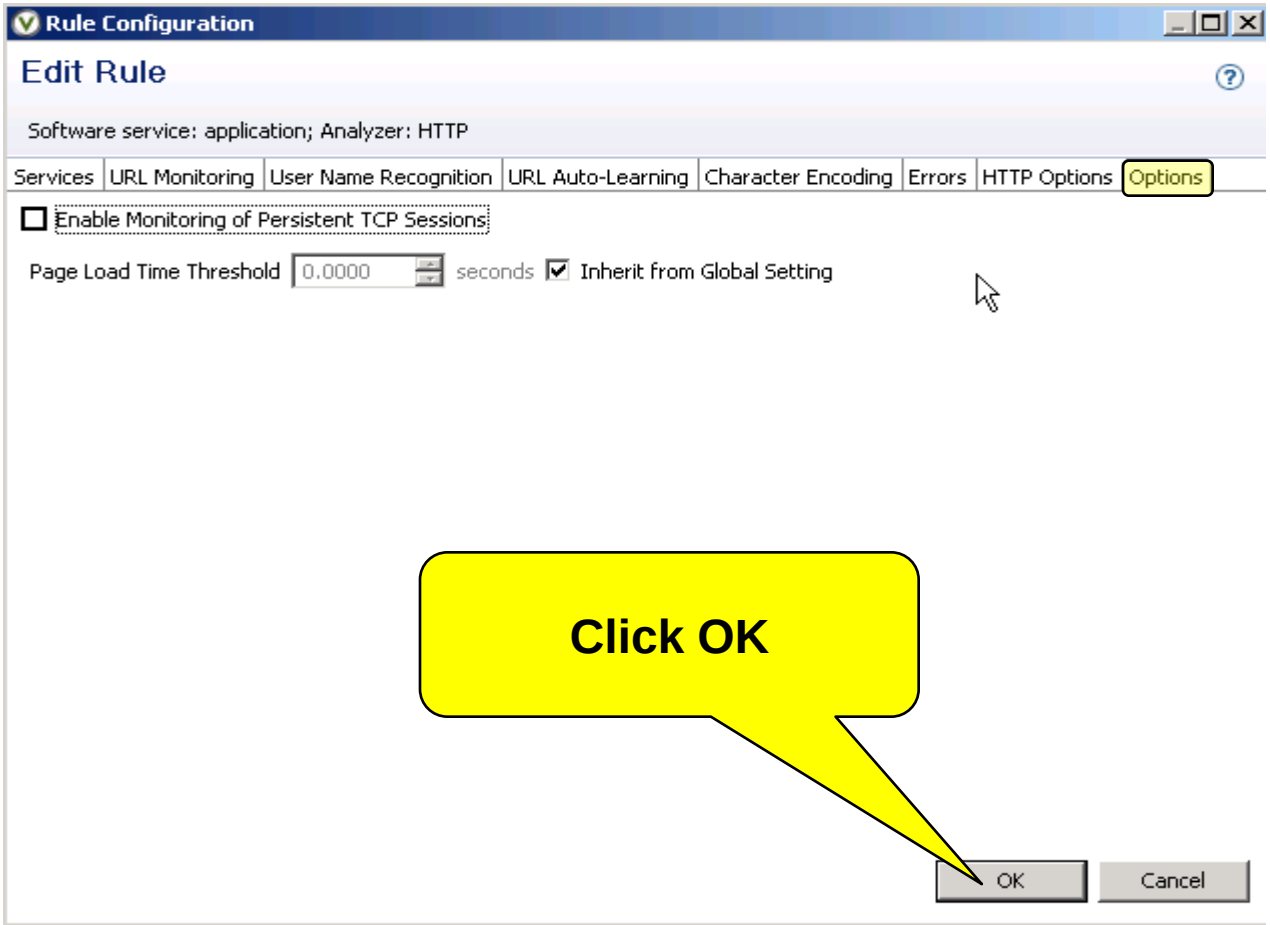
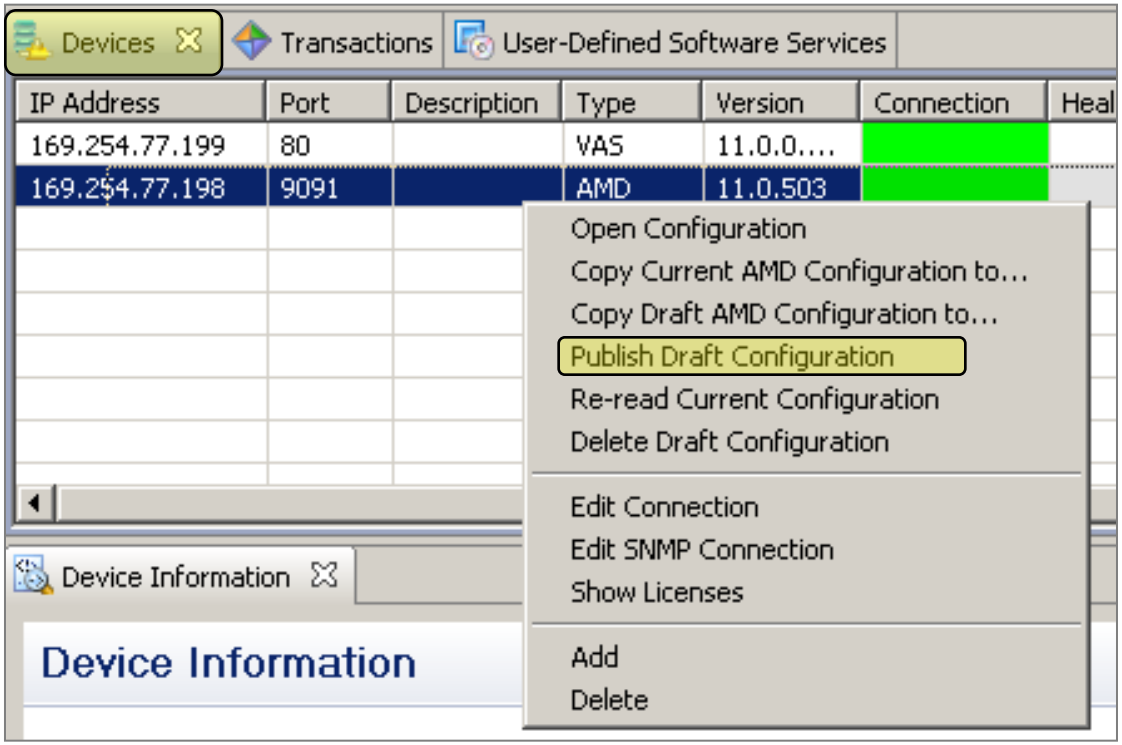
LAB - Configuring a Software Service definition.

- The Options tab contains the following settings:
  - Monitor persistent sessions – Monitors all detected sessions even if the AMD was restarted and began collecting data after session began.
  - The threshold option determines if a page load has been processed too slowly.
  - After Configuration is complete Click OK.



LAB - Configuring a Software Service definition.

- To save changes to the AMD, navigate back to the Devices Tab.
- Right Click on the AMD and Select Publish Draft Configuration.



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Operations, Applications and Transactions

- In order to monitor EUE Application status - operations, applications and transactions must be defined.
- Operation:
  - Refers to an operation in the context of a particular protocol, and can mean a HTTP/HTTPS page load, database query, JOLT request on a Tuxedo server, DNS look-up etc.
- Application:
  - A universal container that can accommodate one or more transactions.
- Transaction can be a:
  - Simple transaction consisting of a single operation, such as a Web page load.
  - Complex transaction consisting of a sequence of operations that are HTTP or XML based.
  - Unstructured transactions that are collections of unsequenced operations.

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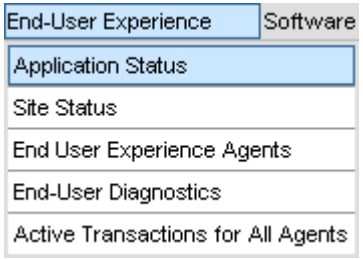
Simple Transaction Monitoring

- Once defined the operation data will be displayed on the End-User Experience – Application Status screen.



- Defining the transaction/application to monitor
  - Create an application
  - Define which software service(s) belong to the application
  - Create a transaction
  - Define the operations to monitor for the transaction
    - If multiple operations are selected, the average operation time is displayed on the EUE Application Status screen for the transaction.

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Exercises

- Next Slide

CVA Console Key Implementation Steps

- Define all system components (VAS, AWDS, AMD, CVAM) in the Console
- Review Global Settings
- Add Software Services
  - Modify Rules
- Add Transactions (for Sequence of Operations)
- Publish Configurations to the AMD
- Connect AMD/CVAM to VAS/AWDS

Exercise #1 – Configure the Agentless Console

Topics Covered

- How to add Software Services
- How to configure Username recognition

Exercise Objectives

- Configure HTTP Software Services for the MedRec and Trade Applications on the Agentless Console.

Duration

- 30 minutes

Instructions

Shared in the word doc

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Sample Results:

Devices | Transactions | User-Defined Software Services

User-Defined Software Services

Software Service Name	Analyzer Type
MedRecApp	HTTP
MedRecDB	Oracle
MedRecWeb	HTTP
TradeApp	HTTP
TradeDB	Oracle
TradeWeb	HTTP

All of the 6 Software Services associated with Trade and MedRec applications should be configured.

Rule Configuration

Edit Rule

Software service: MedRecApp; Analyzer: HTTP

Services | URL Monitoring | User Name Recognition

☑ Enabled

Rule Description

Services

IP Address	Ports	Ma
10.21.79.245	7001	

Each Software Service should be configured with the correct IP addresses and ports.

HTTP POST Parameters Used for User Name Recognition

Host	Path	Login URL	Parameter Name	Cookie Name	Acknowledgement URL
10.21.79.243	/patient/	login.do	username	JSESSIONID	medicalrecord.do
10.21.79.243	/physician/	login.do	username	JSESSIONID	medicalrecord.do
10.21.79.243	/admin/	login.do	username	JSESSIONID	login.do

The front-end Software Services should be enabled with username recognition.

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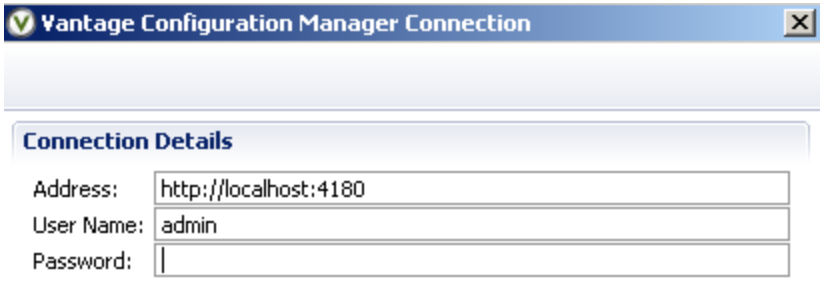
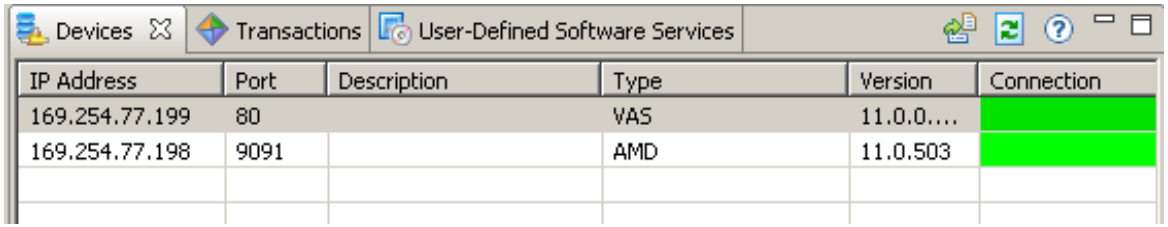
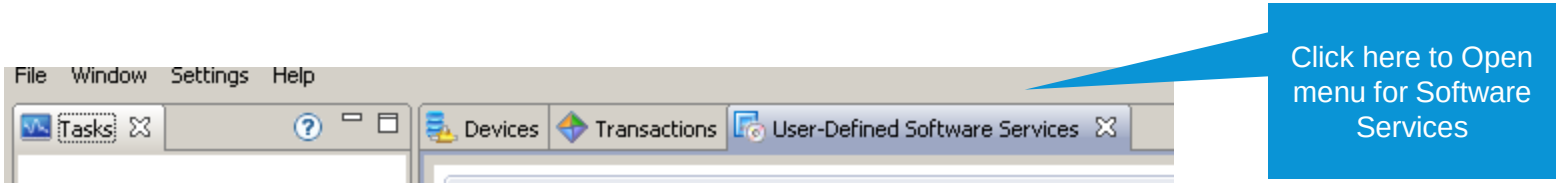
Instructions:

1. Log into the Agentless Configuration Console and connect the AMD and the VAS to the Agentless Console



2. Click on the User Defined Software Services Tab





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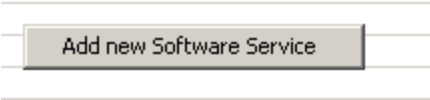
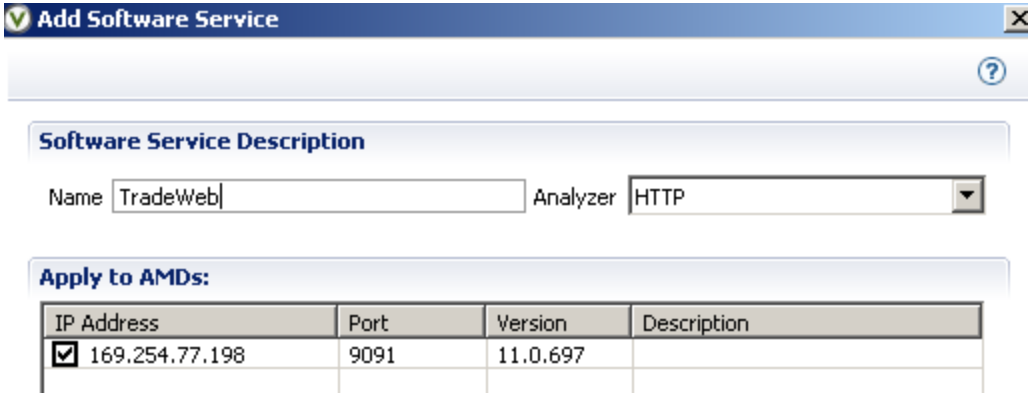
Instructions:

3. Right click on any empty space and left click to Add New Software Service



4. Type the Application Name (TradeWeb) and select the correct analyzer (HTTP). Click on OK at the bottom.



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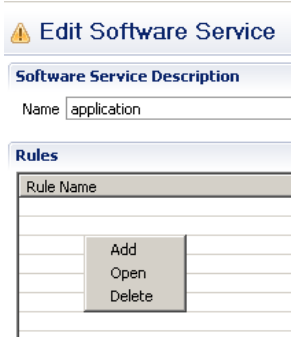
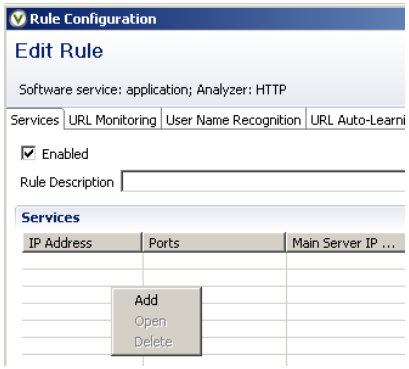
Instructions:

5. Right Click on any empty space and then left click to Add new rule



6. Right Click on any empty space and then left click to Add to configure the Services



95

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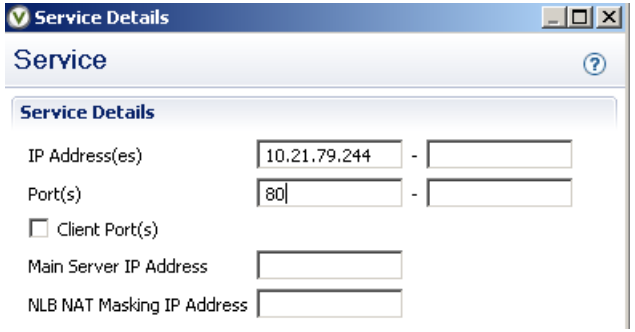
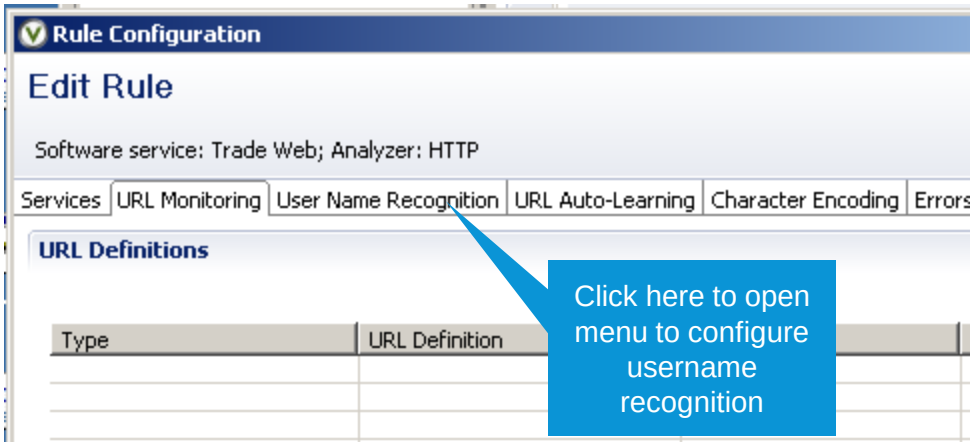
Instructions:

7. Enter the following information for Trade Web service:

   Server IP = 10.21.79.244 Port = 80, then click on OK



6. Click on the User Name recognition Tab



96

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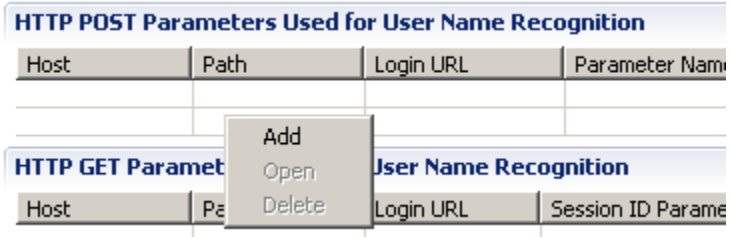
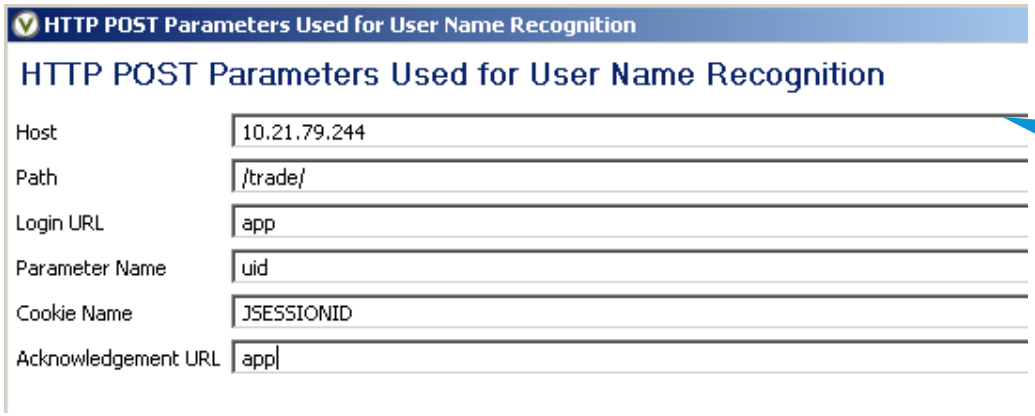
Instructions:

7. Right click on empty space under POST Parameters and left click on Add.



8. Add the following information to configure username recognition. Please note that multiple Username recognition configuration sets can be entered for the same rule under the same Software Service.



All of the information appearing here can be gathered by analyzing a network trace containing a successful user login

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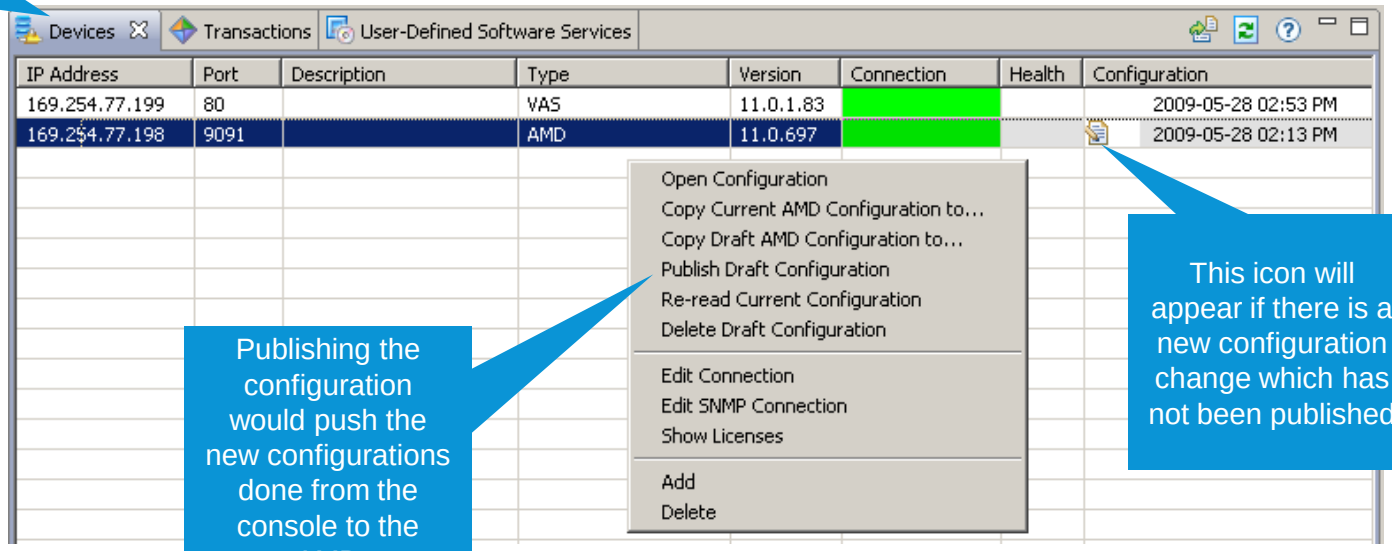
Instructions:

9. Continue to click on OK until you are back to the main menu. Click on the Devices Tab, select the AMD, then right click to bring up a menu. Click to Publish Draft Configuration.

Clicking on the Devices tab brings up a list of all of the Devices which the Agentless Console is connected to



Publishing the configuration would push the new configurations done from the console to the AMD

This icon will appear if there is a new configuration change which has not been published

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Instructions:

10. Repeat the same process for the MedRecWeb Software Service

Software Service name: MedRecWeb Analyzer: HTTP
IP: 10.21.79.243 Port: 80

There are three user name recognition configurations for Med Rec web Service

(Entry 1)
Host = 10.21.79.243
Path = /patient/
Login URL = login.do
Parameter Name = username
Cookie Name = JSESSIONID
Acknowledgement URL = medicalrecord.do

(Entry 2)
Host = 10.21.79.243
Path = /admin/
Login URL = login.do
Parameter Name = username
Cookie Name = JSESSIONID
Acknowledgement URL = login.do

(Entry 3)
Host = 10.21.79.243
Path = /physician/
Login URL = login.do
Parameter Name = username
Cookie Name = JSESSIONID
Acknowledgement URL = medicalrecord.do

99
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Instructions:

11. Add the following mid and back end Software Services for the Trade and MedRec Applications

Software Service name: TradeApp Analyzer: HTTP

IP: 10.21.79.245 Port: 7001

Software Service name: TradeDB Analyzer: Oracle

IP: 10.21.79.247 Port: 1521

Software Service name: MedRecApp Analyzer: HTTP

IP: 10.21.79.242 Port: 9080

Software Service name: MedRecDB Analyzer:Oracle

IP: 10.21.79.246 Port: 1521

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Exercise #2 – Simulate application network traffic

- Topics Covered:
  - How to copy files onto the AMD
  - How to use tcpreplay to replay the network trace files
- Exercise Objectives:
  - Use TCPREPLAY to simulate application network traffic
- Duration:
  - 15 minutes

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Sample Results:

```
[root@vantageamd adlex]# tcpreplay -i eth1 -l 20 capture.tcp
sending out eth1
processing file: capture.tcp
processing file: capture.tcp
```

No errors should be shown if the tcpreplay process starts successfully.

Home | End-User Experience | Software Services | Network | Report | Tools

Website Status: Software services - 5/30/09 22:27 EDT

Software services | Servers | URLs | Sites | Reporting Groups

Time range: Saturday, 5/30/09 (Today) << 5/30/09 00:00 - 5/30/09 22:27 >>

Software service	Usage		
	Pages	Unique users	Slow pages
MedRecApp	165	1	10
TradeWeb	124	20	10
MedRecWeb	83	8	5
TradeApp		1	0

MedRec and Trade HTTP Software Services should be visible on the Website Status report

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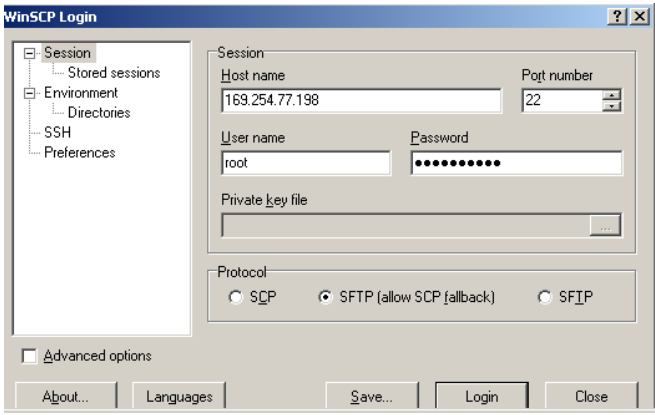
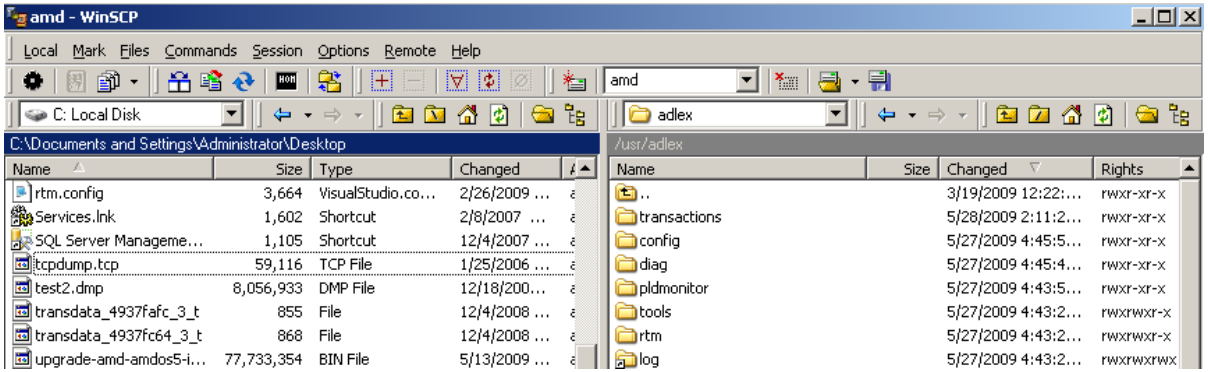
Instructions:



1. Open WINSCP application and connect to the AMD (login = root, password = greenmouse)

2. To copy the file to the AMD, drag the capture.tcp file onto the /usr/adlex directory on the AMD.



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Instructions:

3. Log onto the AMD (username/password = root/greenmouse)

```
Red Hat Enterprise Linux Client release 5.2 (Tikanga)
Kernel 2.6.18-92.el5PAE on an i686

vantageamd login: root
Password:
```

4. From the command prompt, type cd /usr/adlex to go to the directory where the trace file was copied to, then enter the following: tcpreplay –i eth1 -l 10 capture.tcp

```
[root@vantageamd ~]# cd /usr/adlex
```

```
[root@vantageamd adlex]# tcpreplay -i eth1 -l 10 capture.tcp
sending out eth1
processing file: capture.tcp
```


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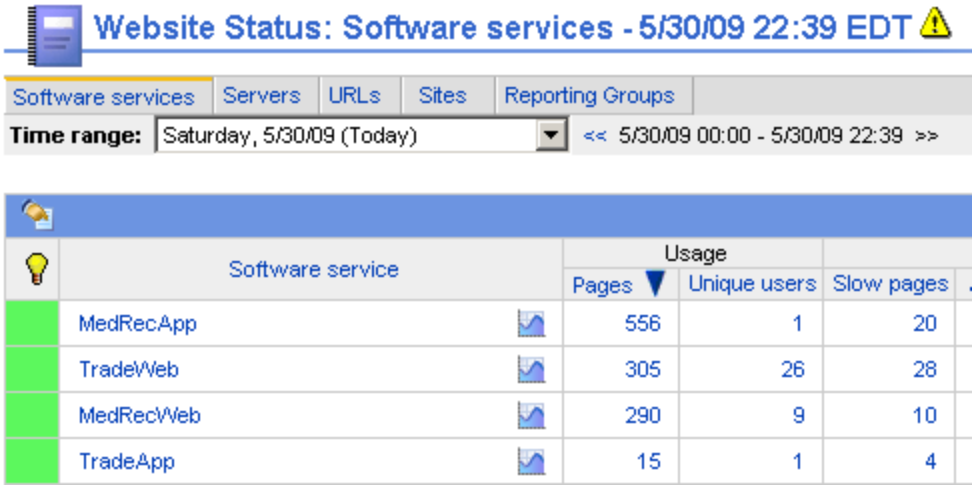
Instructions:

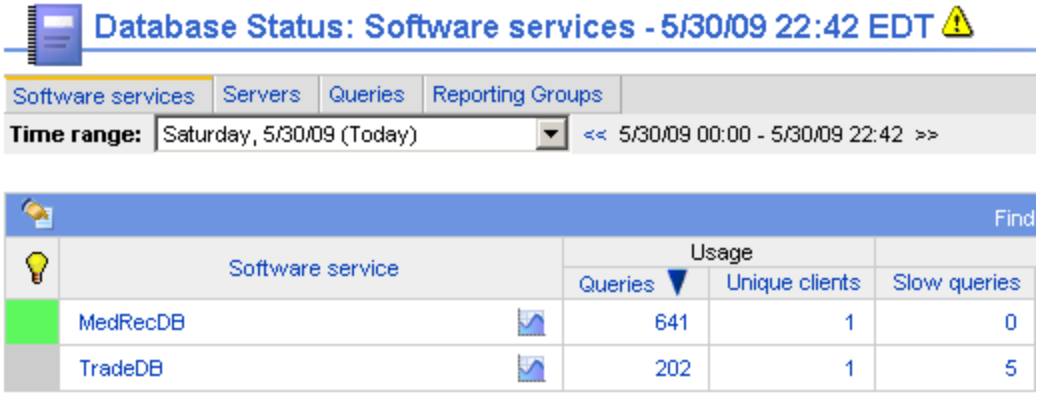
5. Wait for about 5 minutes, then log onto the VAS to verify that the data has been processed correctly. The DB data may take around 10 minutes to show.

You should be able to see MedRecWeb, MedRecApp, TradeWeb, and TradeApp in the Web Status Report



Software service	Usage		
	Pages	Unique users	Slow pages
MedRecApp	556	1	20
TradeWeb	305	26	28
MedRecWeb	290	9	10
TradeApp	15	1	4

You should be able to see MedRecDB and TradeDB in the Database Status report



Software service	Usage		
	Queries	Unique clients	Slow queries
MedRecDB	641	1	0
TradeDB	202	1	5

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Exercise #3 – Configure VAS

- Topics Covered:
  - How to add Applications
  - How to add Transactions
  - How to add Locations
- Exercise Objectives:
  - Configure Applications and associate multiple tiers of Software Services to these applications
  - Configure Transactions for these Applications
  - Configure Sites
- Duration:
  - 20 minutes

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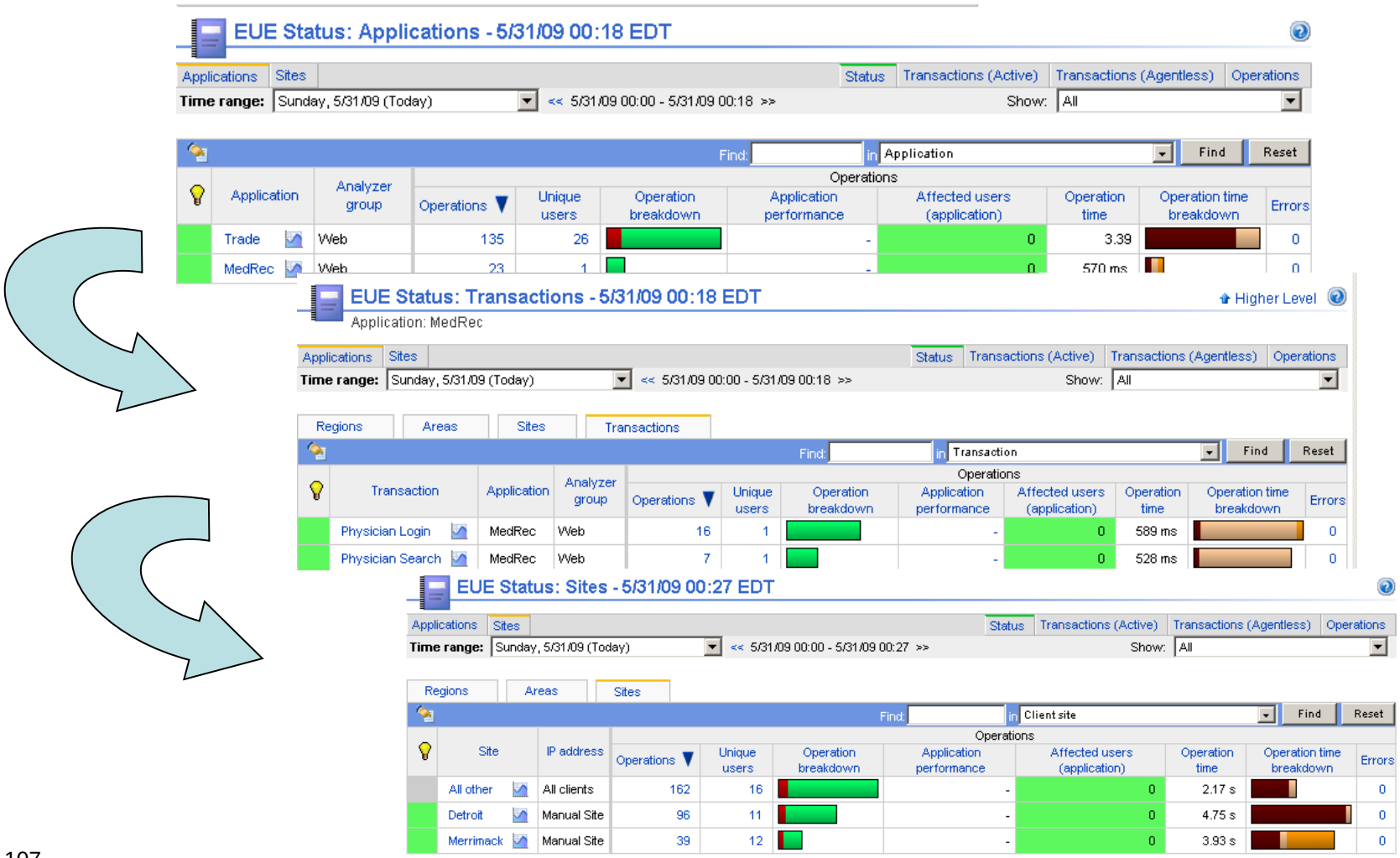
Sample Results:

Applications, Transactions, and Site related information can all be found in the End-User Experience Tab->Application Status reports.



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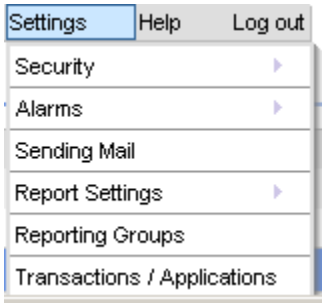
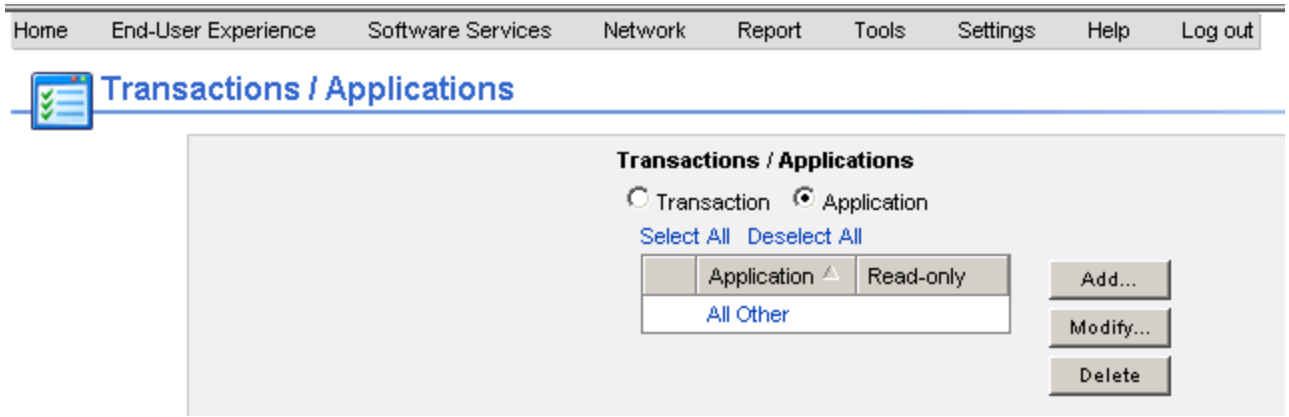
Instructions:

1. Log into the VAS. Hover over Settings and click on Transactions/Applications to bring up the menu.



2. Click on the Applications Radio button, then click on the Add button.



108

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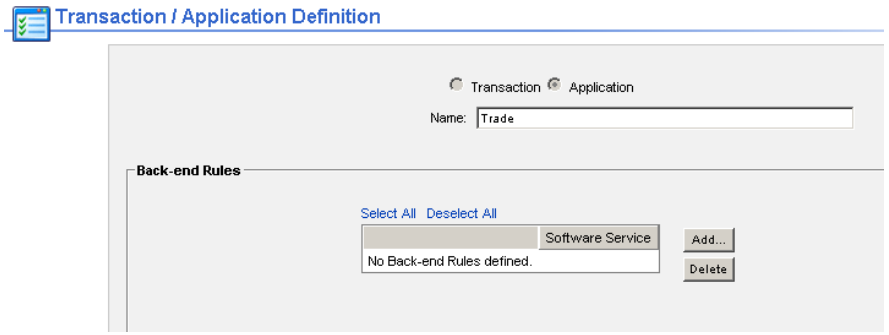
Instructions:

3. Type the name of the Application (Trade) and click on the >> button. Click on the Add button to associate Software Services to that Application.



4. Click on TradeWeb to add this Software Service. Click on Add button again to add TradeApp and TradeDB.

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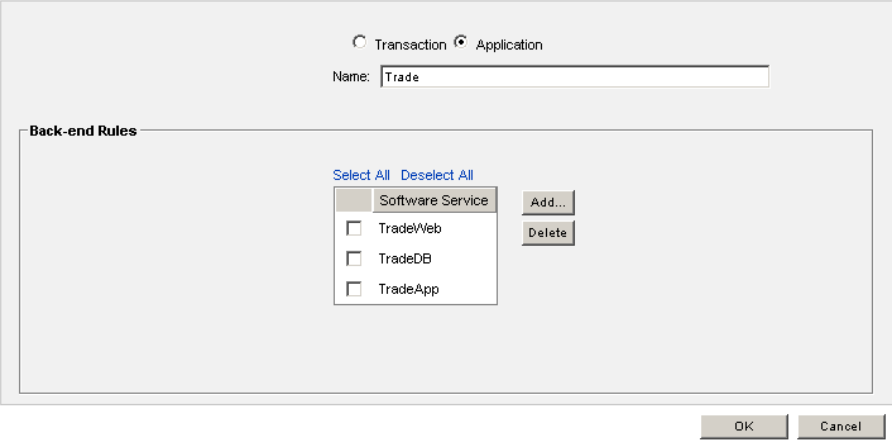
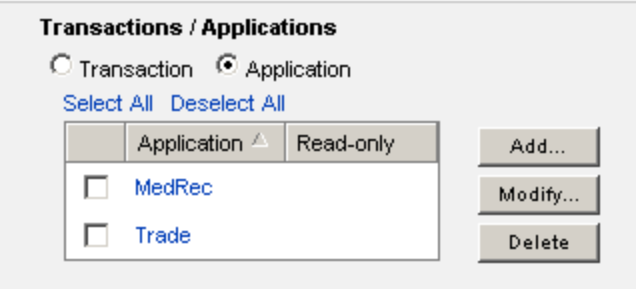
Instructions:

5. Once all of the 3 associated Software Services have been added, click on OK button to finalize the Application.



6. Repeat the same steps to create the MedRec application with the correct software service associations.



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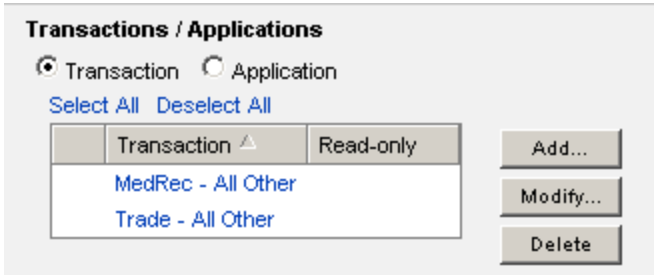
Instructions:

7. Next we have to set up the transactions. Here are the information we need to map individual URLs to Transactions.

Application	Software Service	URL/Operation Name	Transaction Name
Trade	TradeWeb	http://10.21.79.244/trade/app	Trade Login
		http://10.21.79.244/trade	Trade Stock
MedRec	MedRecWeb	http://10.21.79.243/patient/login.do	Patient Login
		http://10.21.79.243/physician/login.do	Physician Login
		http://10.21.79.243/admin/login.do	Admin Login

8. Go to the Transaction/Application menu again, this time click on the Transactions radio button, then click on the Add button.



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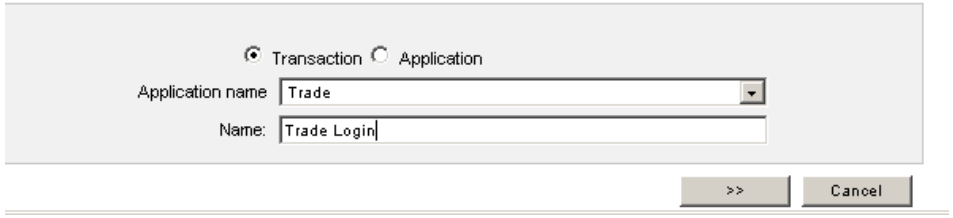
Instructions:

9. Select the correct Application from the pull down menu, type in the transaction name, then click on the >> button.



10. Click on the Add button to bring up the Reporting Group definition menu. Match the Software Service with the URL, then click on OK buttons twice to complete the transaction configuration.

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Instructions:

11. Complete the configuration for rest of the MedRec and Trade Transactions.

12. Review the information which are needed to configure for locations on the VAS.

Region	Area	Site	IP
United States	Michigan	Detroit	10.21.79.0-10.21.79.254
United States	New Hampshire	Merrimack	172.23.100.0-172.23.100.254

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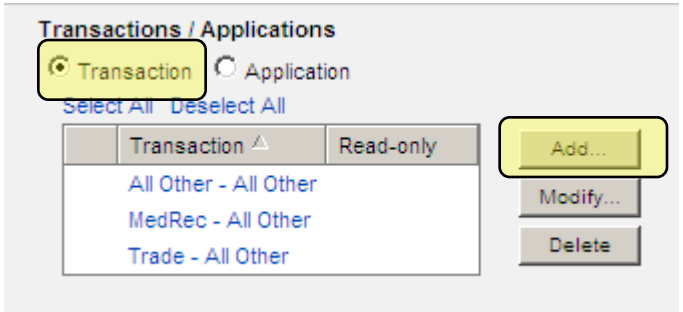
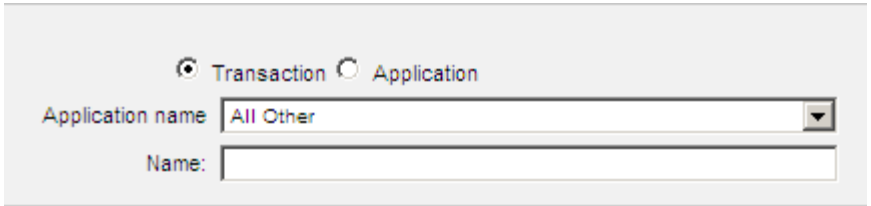
LAB - Configuring a Transaction definition

- Select the Transaction radio button to display the transactions.



- Click the Add button to define a transaction.



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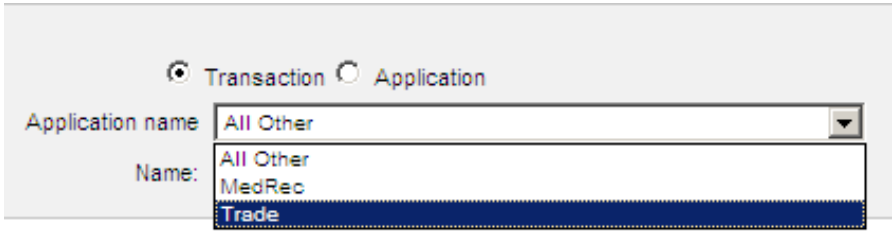
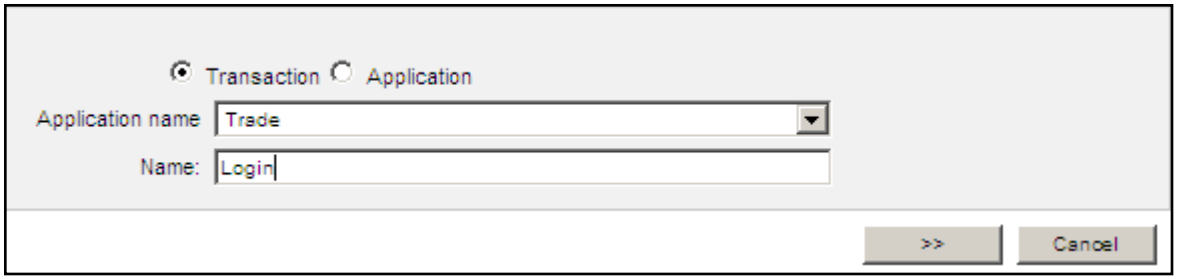
LAB - Configuring a Transaction definition

- Select the Application name that the transaction belongs to.



- Type in the name of the transaction that will be tracked.



- Select the >> to continue

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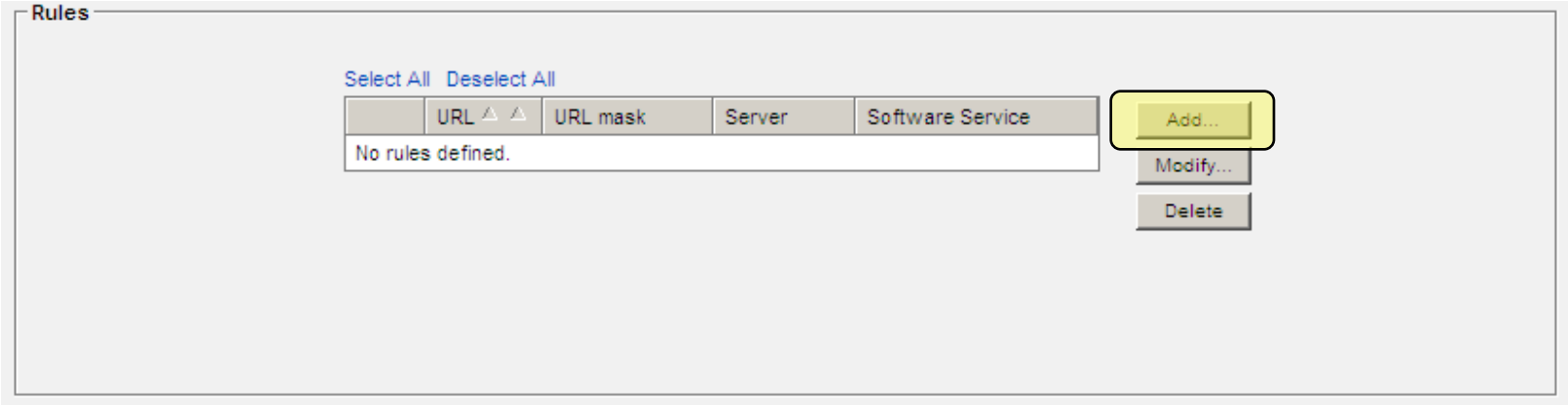
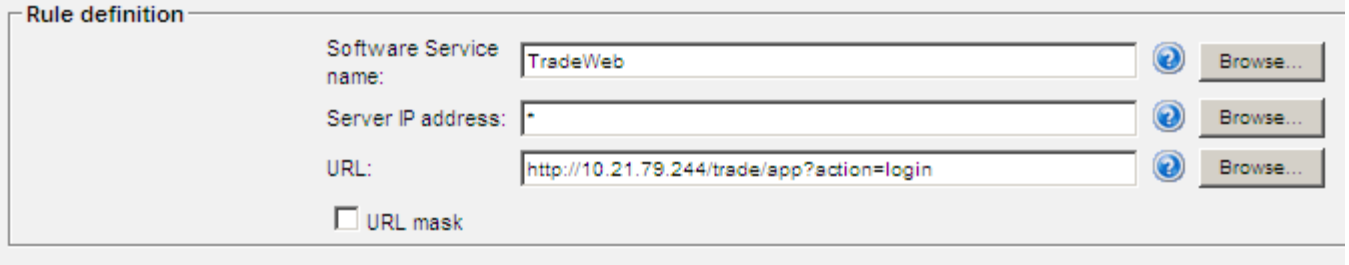
LAB - Configuring a Transaction definition

- In the Rules section select the Add button



- Select the necessary settings to define the operation(s) that make up the transaction. Use the browse buttons to select the settings. Select OK when complete.



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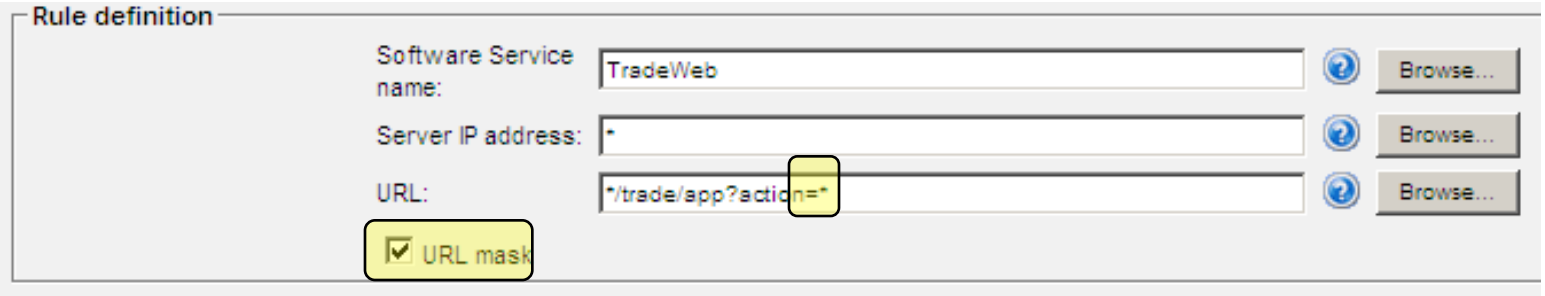
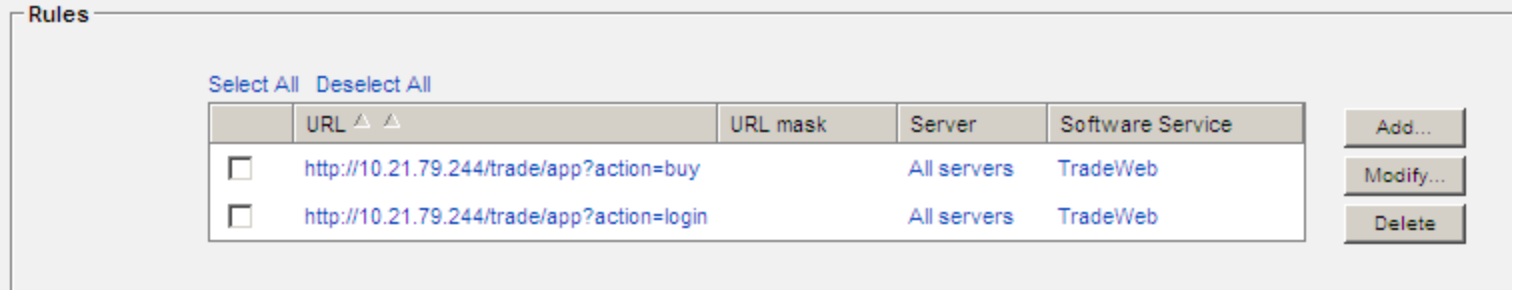
Additional information - Configuring a Transaction definition

- Selecting multiple operations for a transaction – Transaction time will be an average of the operation times when multiple URLs are used.
  - URL masks, along with "*", can be used to select multiple operations that match a pattern.



  - Additional rules can be defined with additional URLs/operations to measure a transaction.



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ClientVantage Agentless Monitoring

- Sites help report users to identify particular IP networks.
- Sites can be defined:
  - Manually using IP address ranges.
  - Automatically using an IP address and network mask.
  - Automatically using information retrieved from the BGP (Border Gateway Protocol) routing table (adlex/config/bgp).

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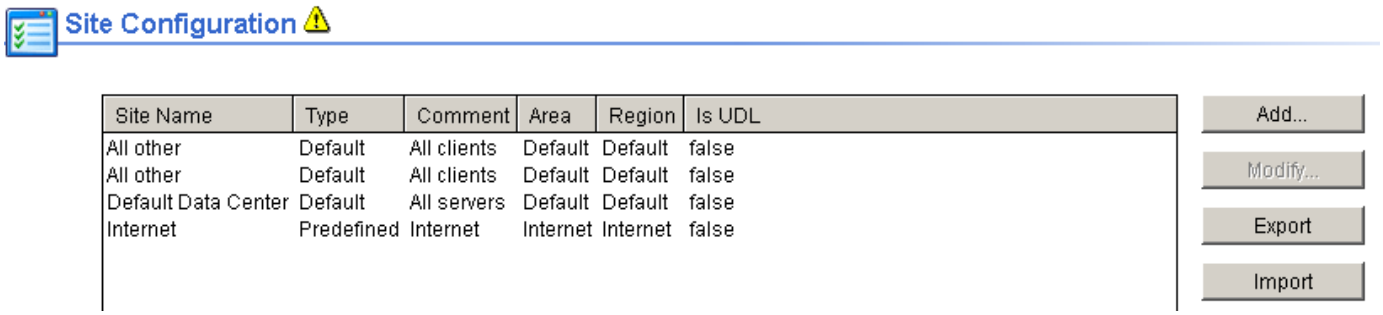
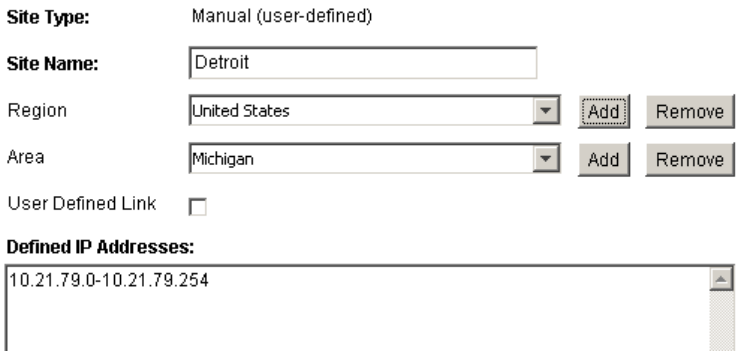
Instructions:

13. Hover over Settings->Report Settings and click on Sites to bring up the Site Configuration menu. Click on the Add button on the right.



14. Add the Site Name. Click on the Add button next to Region to add the Region and Area names. Add the IP address in Defined IP address field, then click on OK.



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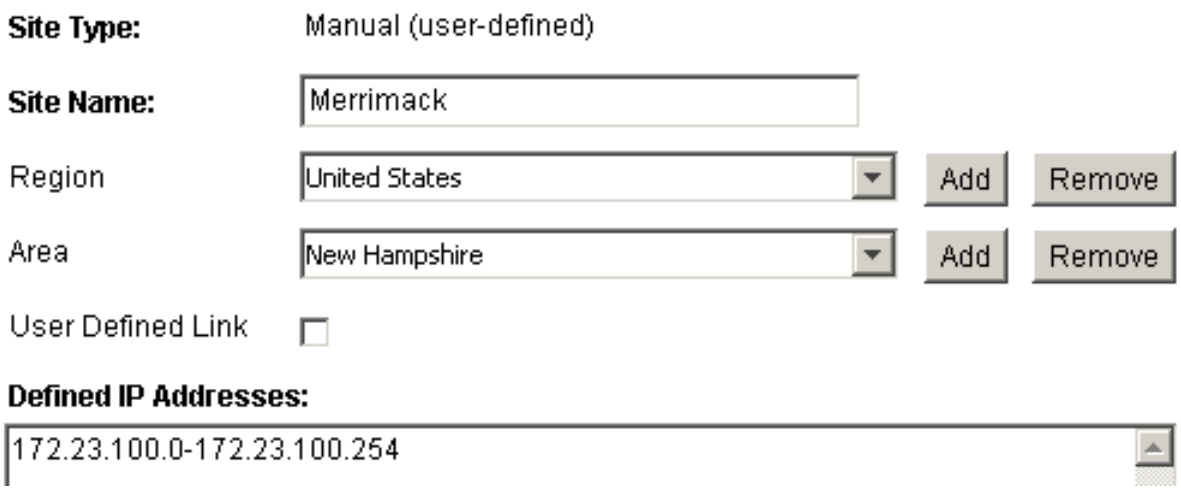
Instructions:

15. Add the Merrimack Site.



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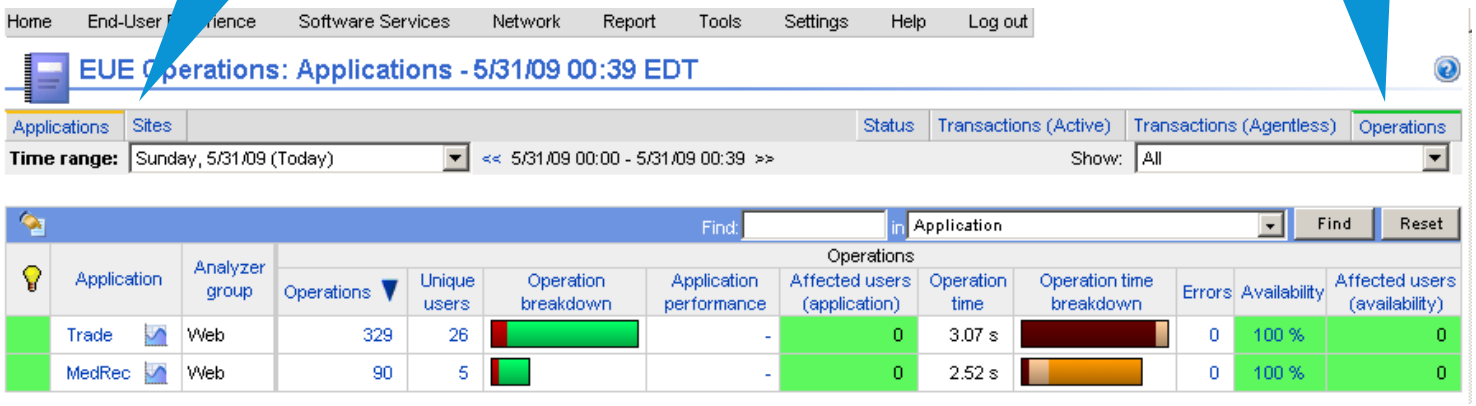
Instructions:

16. Hover over End-User Experience on the top and click on Application Status. Click on the Operations Tab. If configurations are done correctly then the Applications and Transactions will show up gradually as the new data are being processed (allow 5 minutes for all of the data to show up). Click on the Sites tab to make sure Sites are configured correctly.

Click on Sites to bring up information broken down by individual Sites

Transactions configured on the VAS will show up in the Operations Tab.



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ClientVantage Agentless Monitoring

- The next step to configure the VAS is to set up reporting groups.
- Reporting groups are a universal containers that can accommodate Software Services, servers, URLs or any combination of these.
- Reporting groups allow you to see data from Software Services, locations or services grouped together for ease of access in the reports.
- URLS can be represented in multiple Reporting groups simultaneously.
- Permissions may be granted to or restricted from a user so they can only view certain groups.

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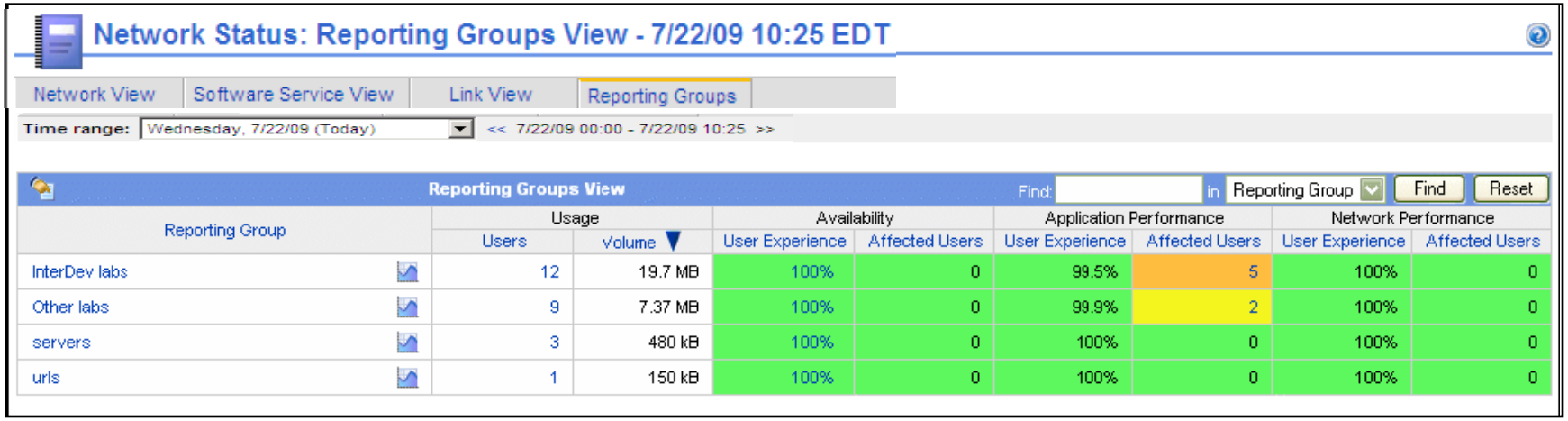
LAB – Configure Reporting Groups

- Two of the monitored areas have a default scorecard report.
  - Software Services and Network.
- Within each of these reporting areas is a reporting groups tab.
- In this lab, you will be creating a new reporting group.
  - Click the Network menu option
  - Select Reporting Groups
    (the Network: reporting groups tab is shown below)



Reporting Group	Usage		Availability		Application Performance		Network Performance	
	Users	Volume	User Experience	Affected Users	User Experience	Affected Users	User Experience	Affected Users
InterDev labs	12	19.7 MB	100%	0	99.5%	5	100%	0
Other labs	9	7.37 MB	100%	0	99.9%	2	100%	0
servers	3	480 kB	100%	0	100%	0	100%	0
urls	1	150 kB	100%	0	100%	0	100%	0

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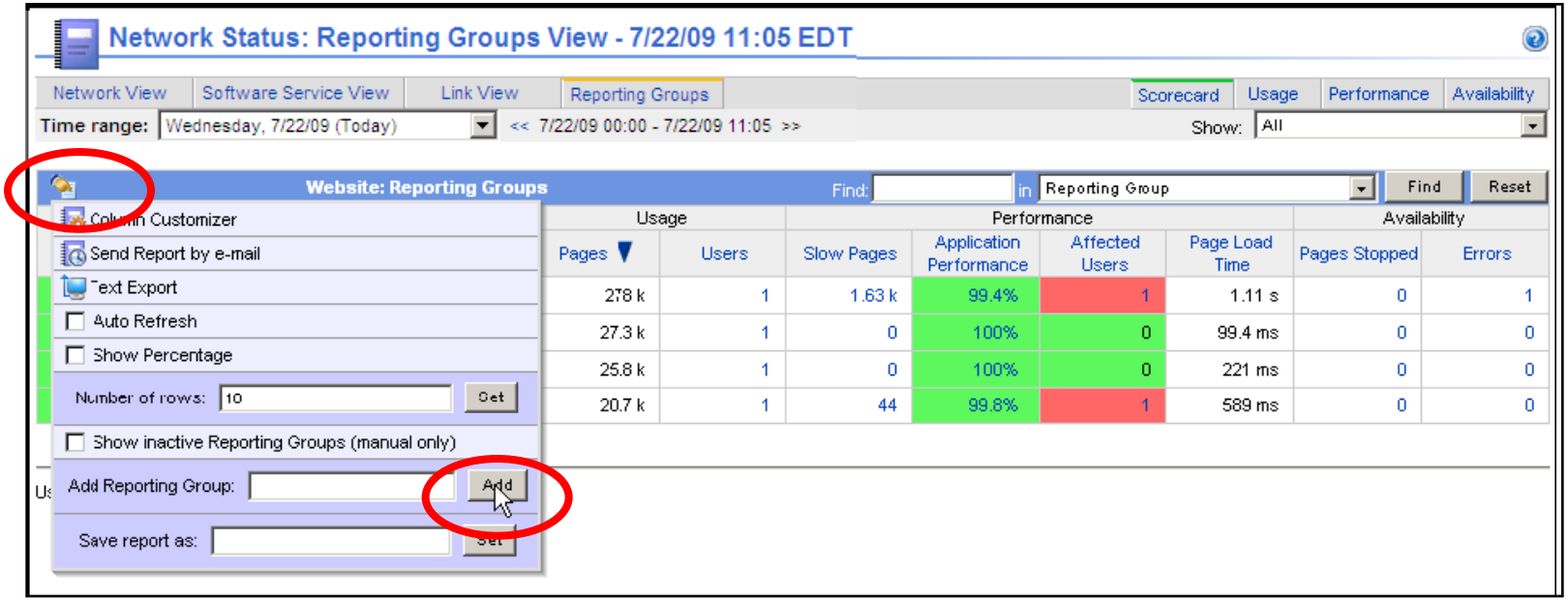
LAB – Configure Reporting Groups

- New reporting groups are created through the design reporting groups icon.
  - Click the design reporting groups icon
  - Type in “training” and click the Add button to add a new group



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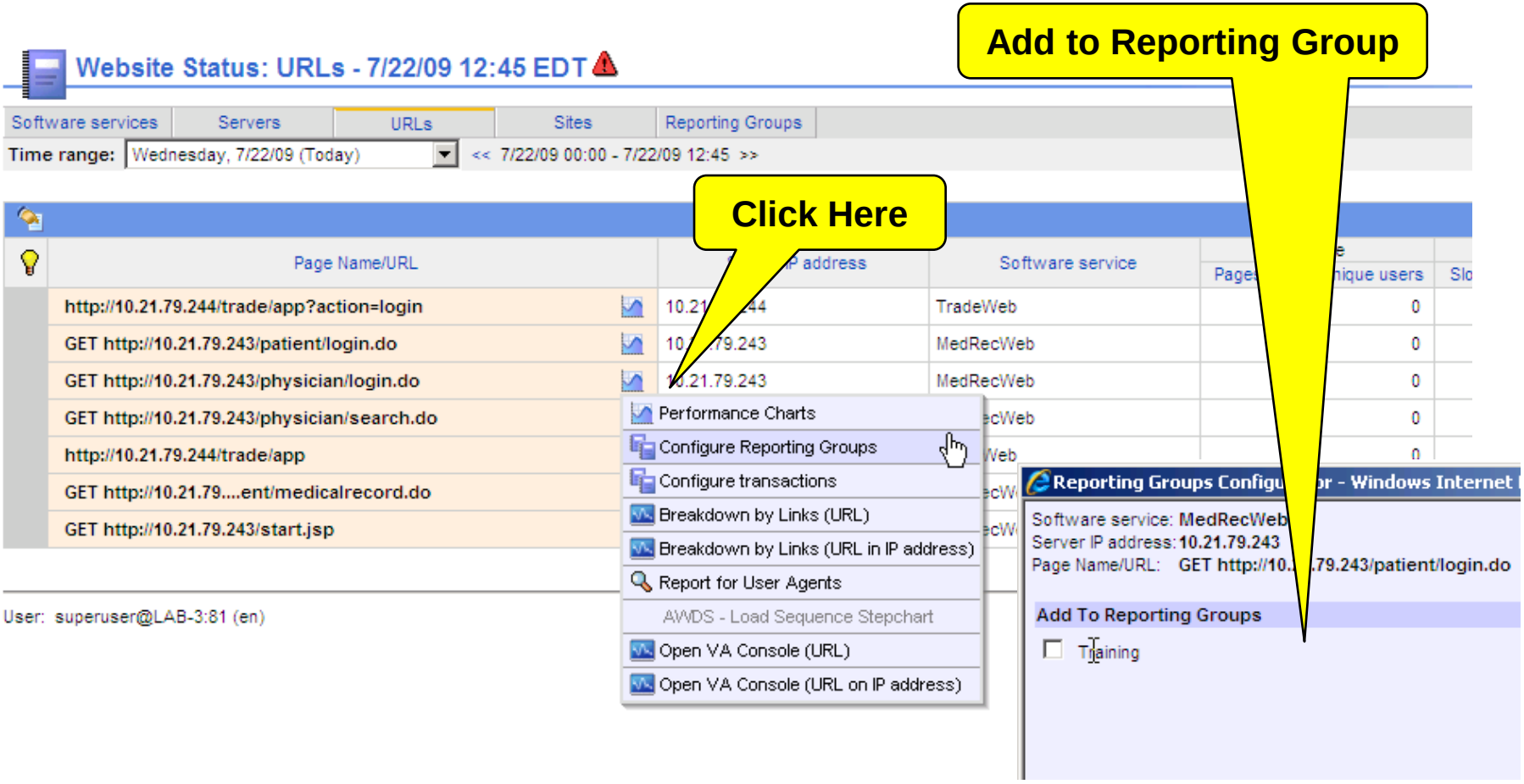
…or on the other scorecard reports directly for detected URLs, Servers, or Software Services.



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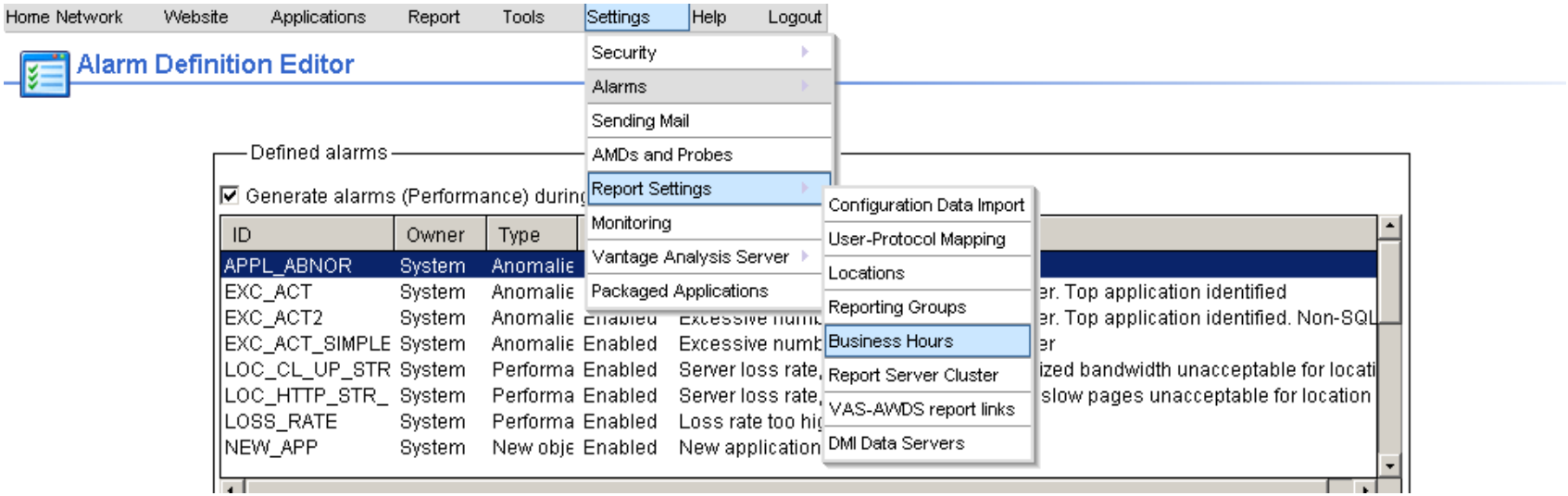
LAB – Configuring Business Hours

- Business hours are used to isolate business form Non business hours.
- This is useful when looking at trends and performance so that business periods can be easily isolated form non business periods that may skew results.



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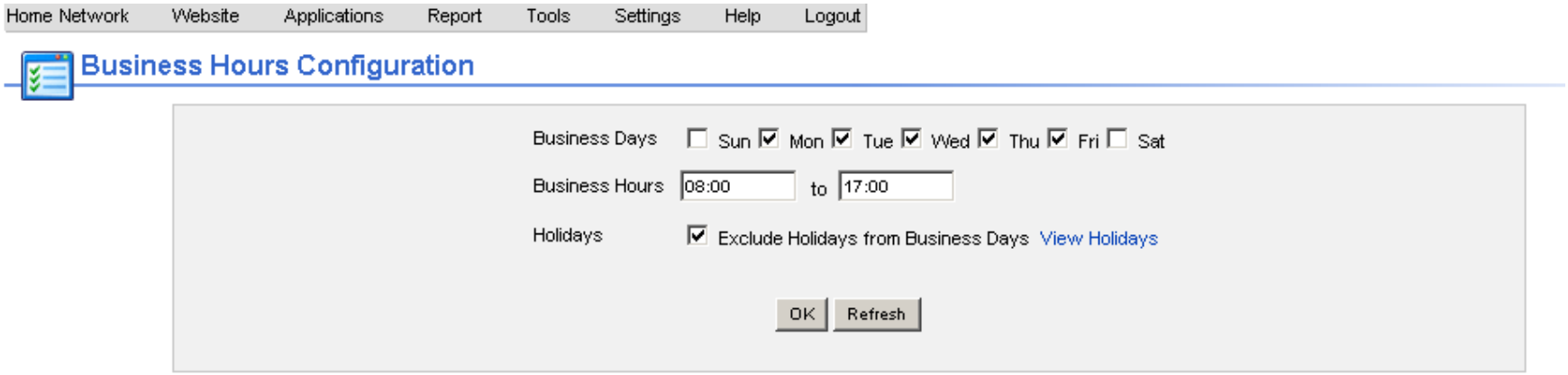
LAB – Configuring Business Hours

- Configure business hours



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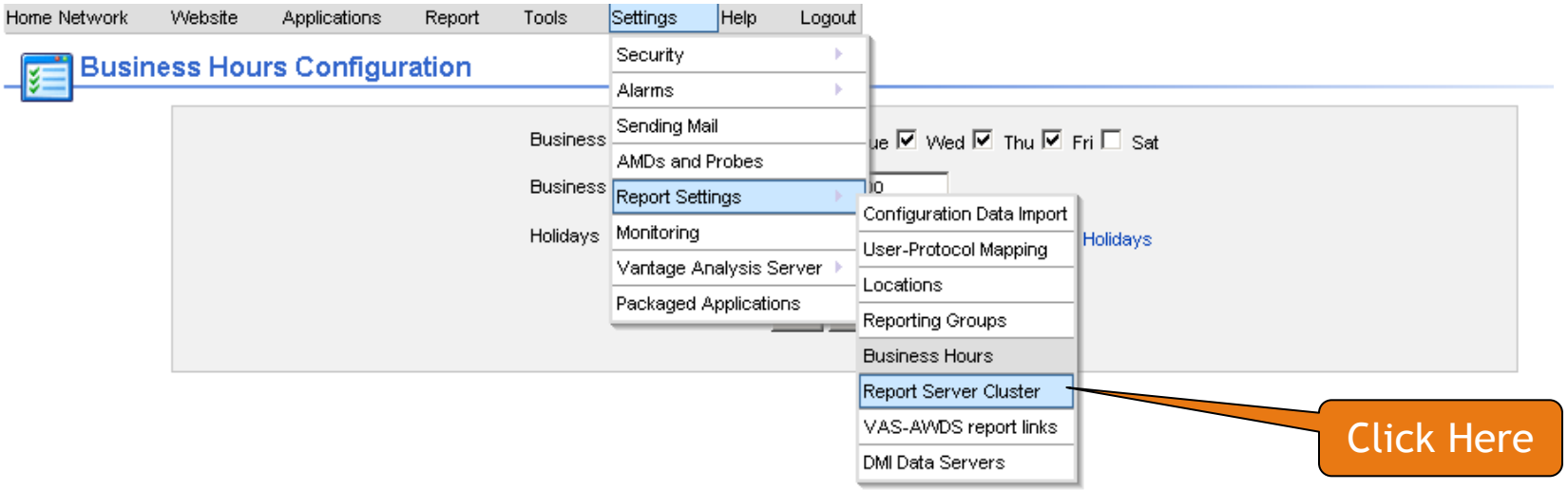
ClientVantage Agentless Monitoring

- A report server cluster links together servers to meet scalability, availability, an interoperability needs.
- A cluster can consist of multiple VAS units or a VAS and AWDS to replicate configuration information and provide drill down capabilities between the VAS and AWDS.



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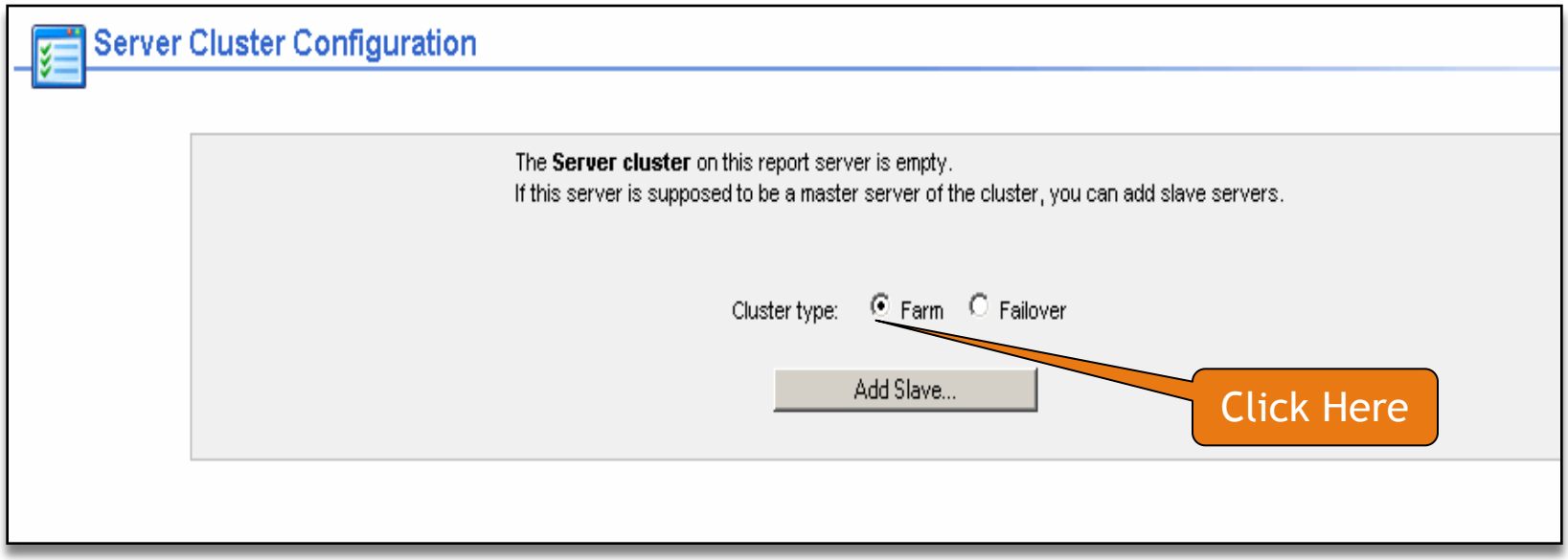
ClientVantage Agentless Monitoring

- A farm with multiple VAS units is created to address any scalability and availability concerns.
- A failover is created for availability and a Farm is created for scalability.
- When both VAS and AWDS coexist in the same environment a Farm can be created so VAS and AWDS can share configuration information and provide drilldown capabilities.



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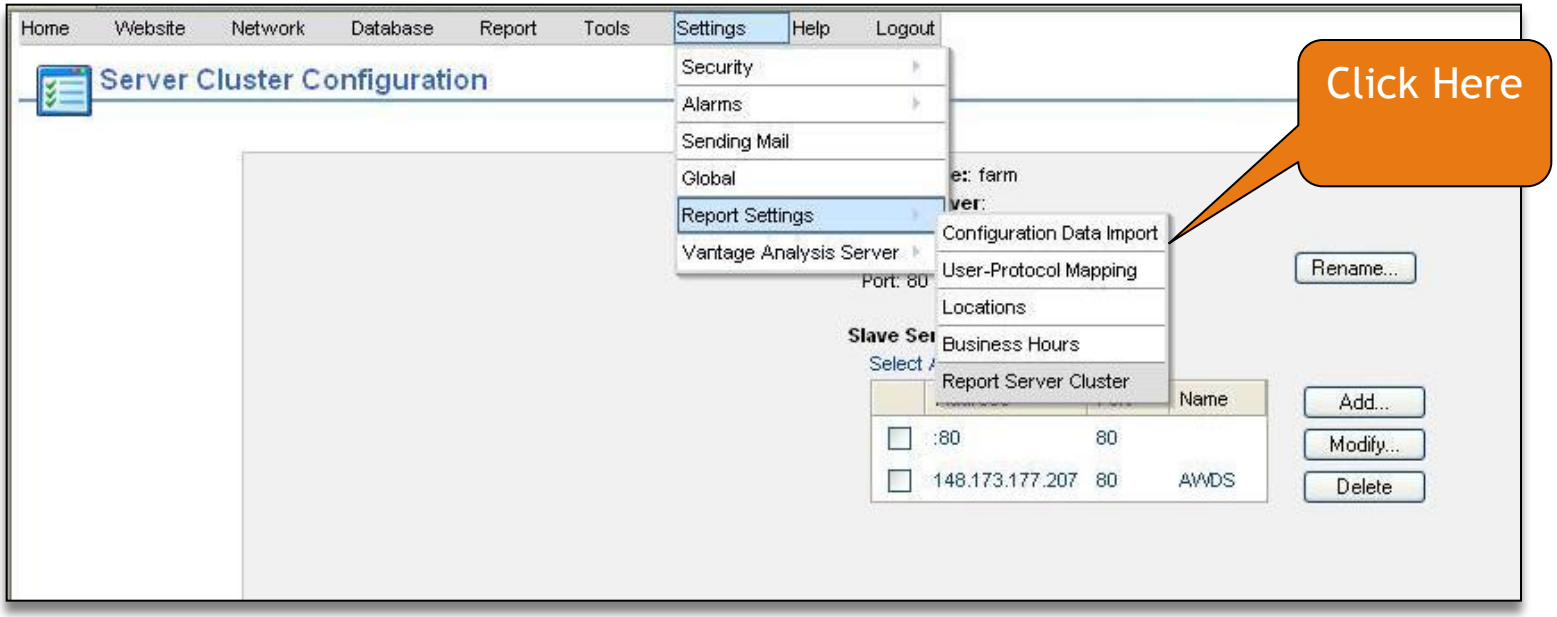
LAB – Linking VAS and AWDS

- The next step is to link the VAS with the AWDS in order to access reports.
  - Go to on the **AWDS** ->Report Settings ->Configuration Data Import Menu and set the value Config servers to the IP address of the VAS to get the locations and user information to update each interval as well.



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LAB – Linking VAS and AWDS

Enter in VAS IP address

Configuration Import

Property name	Comment	Property value	Modify
CONFIG_SERVERS	IP address and port (http) of the Adlex server(s) which serves configuration of the locations, reporting groups etc. Servers are separated by ';'. Synchronization is done once a day or manualy from Re-generate Reports (SynchConfigTask).**Note that superuser password must be the same on all the servers.** Example: 10.1.1.1:81;10.1.1.2:80.		Set value Restore default
CONFIG_SERVER_CLIENT_GROUP	If true then client groups are imported from remote server(s).	true	Set value
CONFIG_SERVER_IS_FAILOVER	Indicates, whether server is failover server. Failover server doesn't do some actions, for example doesn't send emails, because emails are sent by primary server	false	Set value Restore default
CONFIG_SERVER_LOCATION	If true and CONFIG_SERVERS is not empty then list of locations is taken from the first server on the list. In this case import of locations from file is disabled. Locations that were imported from file(s) will be replaced by the locations imported from the remote server. **Note: Locations can only be imported from one source server - the first server on the list. Other listed servers are not queried for locations.**	true	Set value
CONFIG_SERVER_PLD	If true and CONFIG_SERVERS is not empty then list of probes is taken from server(s). In this case AMD configurator cannot edit entries.	false	Set value
CONFIG_SERVER_PROTOCOL	If true, then protocol mapping configuration is imported from remote sever(s)	false	Set value
CONFIG_SERVER_REPORTING_GROUP	If true and CONFIG_SERVERS is not empty then list of reporting groups is taken from the server(s). In this case import of reporting groups from file is disabled. Reporting groups that were imported from file (s) will be replaced by the reporting groups imported from remote server(s).	true	Set value
CONFIG_SERVER_REPORTS	If set to true, then reports are synchronized	false	Set value
CONFIG_SERVER_TOS	If true name of TOS is imported from remote server(s).	true	Set value
DMI_GET_SLAVES_DATA	If true and server is master in farm configuration, then DMI reads data from slaves and from local (master) sever. Otherwise data is read only from local server.	false	Set value
MIN_GEO_CERTAINTY	Minimum certainty level for geographical database	70	Set value

User: superuser@10.102.10.26:80 Report generated: 10/6/05 5:57 AM Version: 4.6.3.159

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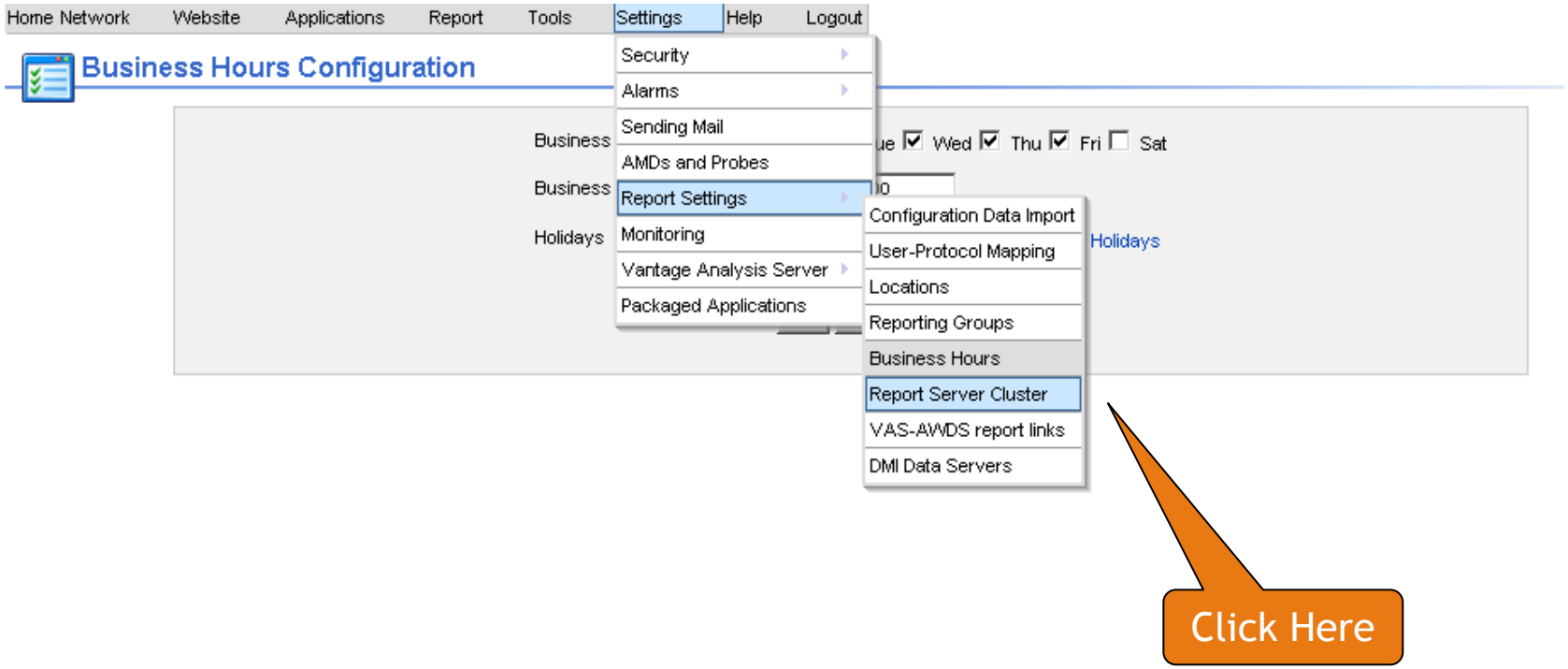
LAB – Linking VAS and AWDS

- On VAS go to Settings -> Report Settings -> Report Server Cluster - Add Slave with AWDS address



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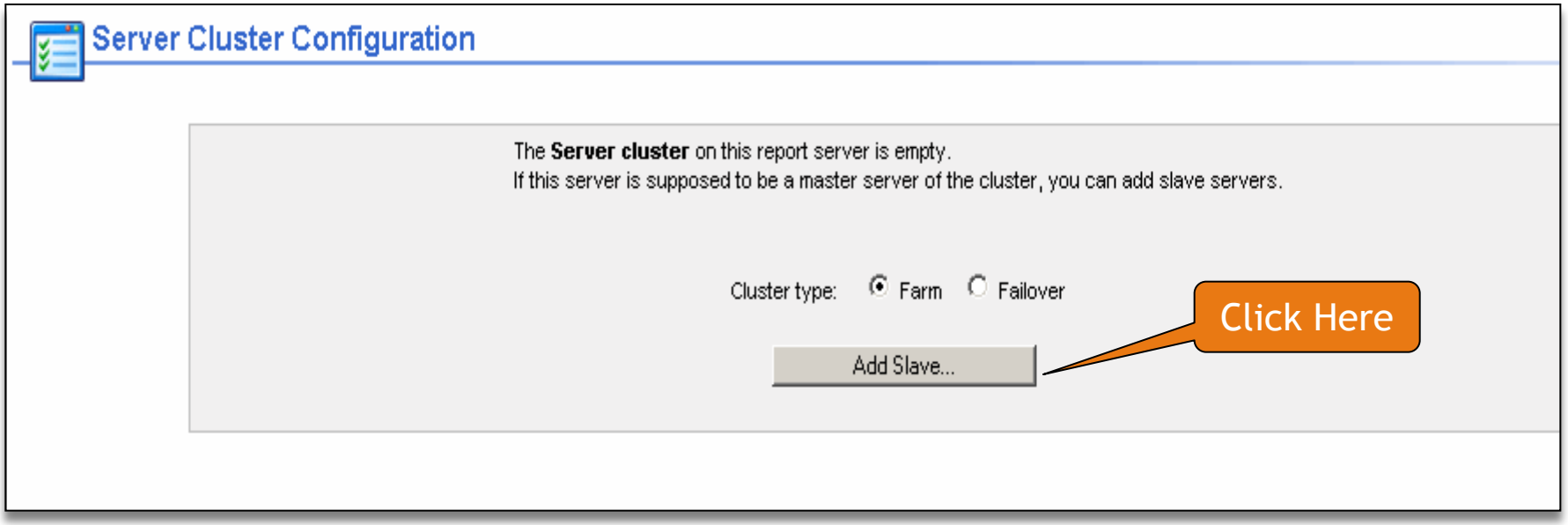
LAB – Linking VAS and AWDS

- A farm with multiple VAS units is created for scalability reasons and with A VAS and AWDS to share configuration information and provide drilldown capabilities.
- Failover is created for availability reasons.



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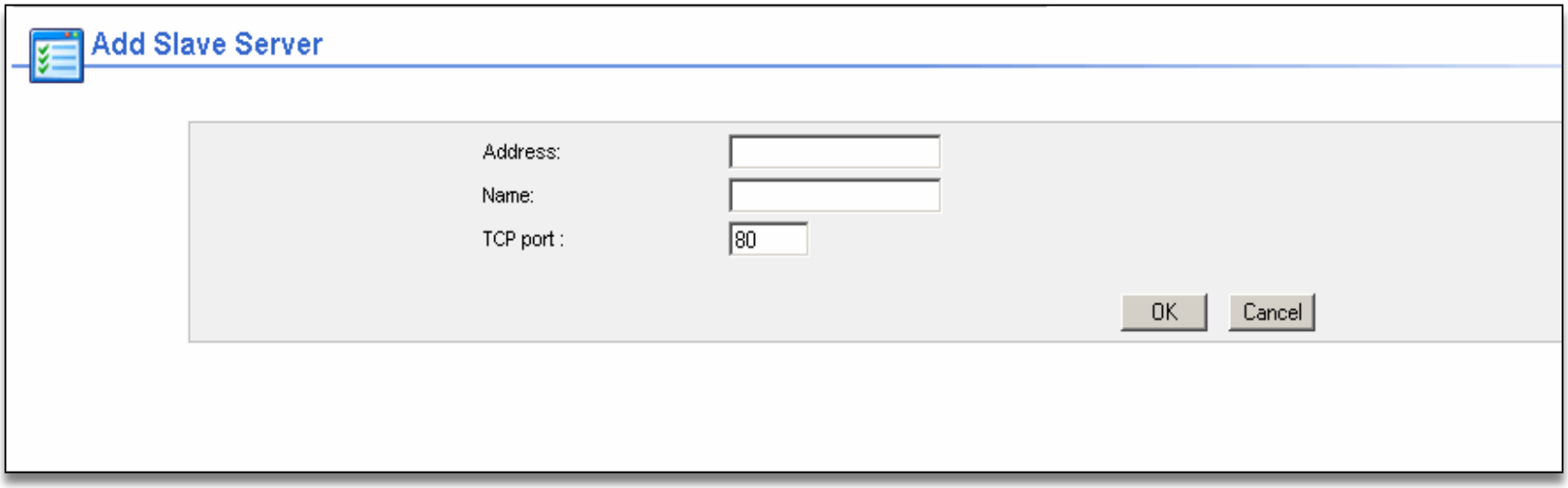
LAB – Linking VAS and AWDS

- The AWDS box needs to be specified as a slave server.
- This will allow the setup information to replicate from the VAS to AWDS.
- In some environments a second VAS may also be specified as a slave server for scalability and availability improvements if necessary.



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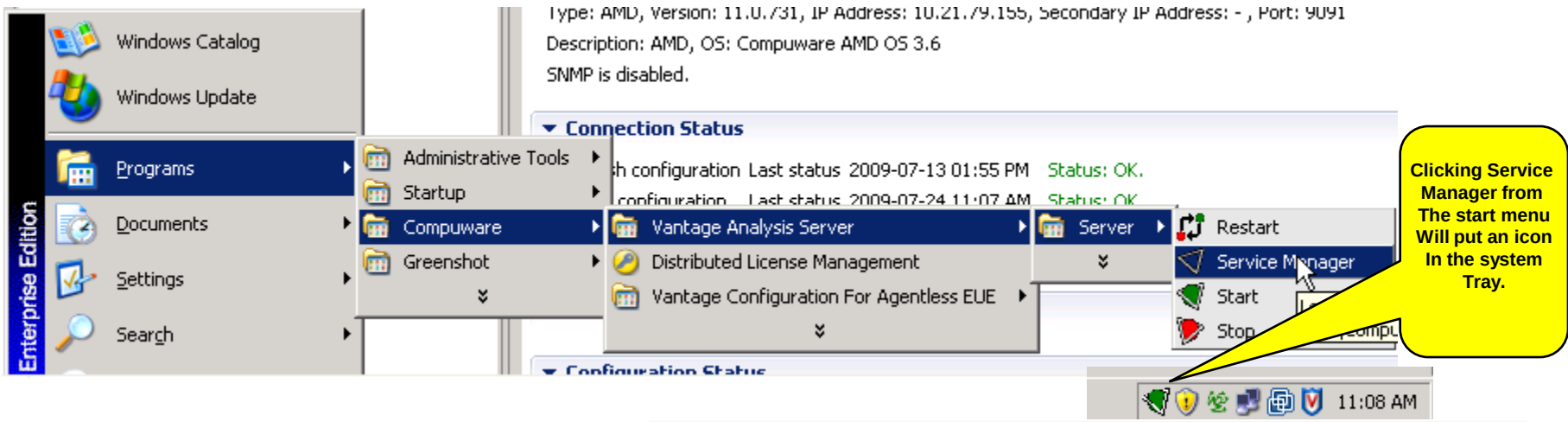
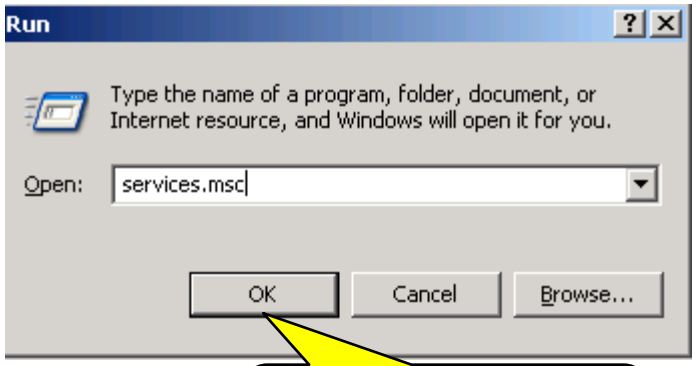
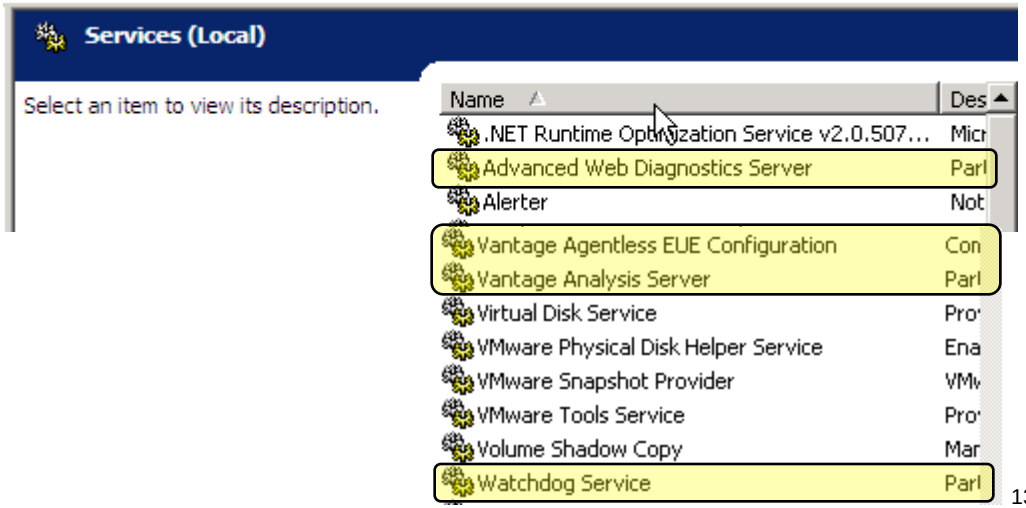
ClientVantage Agentless Monitoring

- The **Service Manager** icon allows you to start, stop and restart the report server by clicking on the icon with the right mouse button and selecting the desired option:







Run services.msc for an alternate way to start and stop services.

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ClientVantage Agentless Monitoring

- At this point, you should be able to:
  - Access and navigate the VAS interface
  - Connect to AMD interface
  - Understand and configure application definitions
  - Configure VAS for data collection

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Show online

- *Show EUE online demo*

Data Reporting

This topic discusses the Data Reporting capabilities of CVAM. Within this topic, navigation and configuration of reports as well as advanced data mining will be discussed.

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Objectives

By the end of this section, you should be able to:

- Navigate the basic report interface.
- Understand the difference between the Enterprise and Web platforms.
- Understand the Data Mining Interface (DMI).
- Configure DMI reports.
- Understand and configure dashboards.
- Perform advanced data mining with the DMI.
- Understand fundamental Metrics
- View correlated Vantage Analyzer (VA) Data.

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ClientVantage Agentless Monitoring

- Reporting within ClientVantage's Agentless monitoring solution can be categorized into 3 groups:

  1. GUI based Report Server reporting (Fig. 1)

  2. Dashboard reports (Fig. 2)

  3. Ad Hoc reporting through the Data Mining Interface (DMI) (Fig. 3)

Fig. 1

Fig. 2

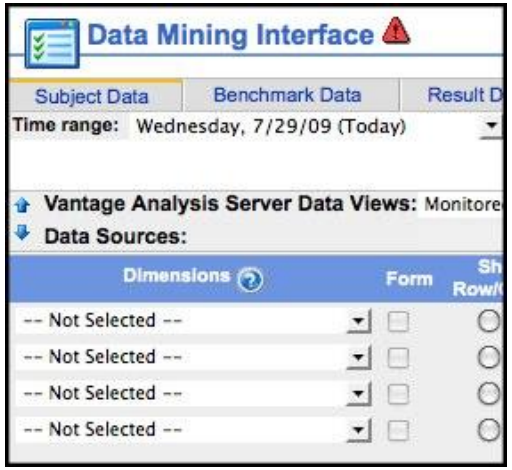

Fig. 3

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- Information and help is readily available in 1 of 3 ways:

  1. Selecting Help on the menu which will provide access to on-line manuals.

  2. Selecting the Help icon in the upper right hand corner provides a description of the current report under view.

  3. Mouse Hover over report fields provides tool-tip type assistance.

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ClientVantage Agentless Monitoring

- There are two main Report Server types: the Vantage Analysis Server (VAS) and the Advanced Web Diagnostic Server (AWDS)
  - The VAS has the ability to monitor, analyze, and report on Web, Database, and Enterprise metrics.
  - The AWDS provides detailed Web component level reporting.
- The availability of reports through the Report Server is determined by many factors:
  - It is determined by the type of Report Server, the options purchased, the manufacturing process, any implementation services, and by the login used to enter the Report Server.

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ClientVantage Agentless Monitoring

- The first screen you will see after logging into the Vantage Analysis Server depends on the particular license you have purchased.
- Two main licensable features available for the VAS are the Web and Enterprises features.
  - The Enterprise feature allows access to the Network Reports.
  - The Web feature allows access to the Web Reports.

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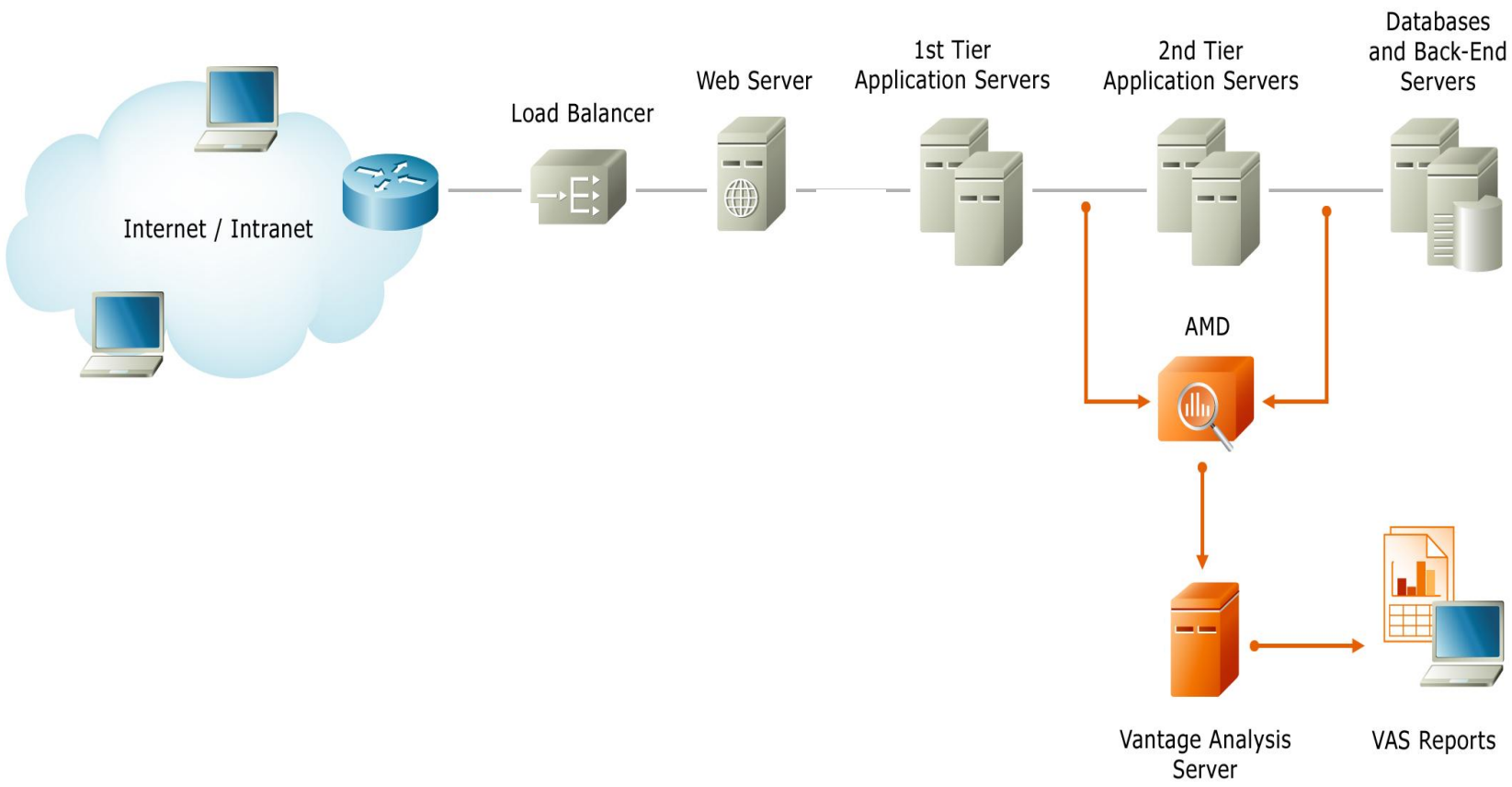
Sample Vantage VAS/AMD Enterprise Architecture



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Network View *(Use Online demo)*

- The reports grouped in the Network Menu provide a network view of traffic.
- These reports are designed to show a picture of:
  - The monitored network operation.
  - Potential problems in the network including excessive RTT or loss rate.

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Network View

- The Network View provides three types of reports:
  - **Regions** report - showing the very top-level view of the network.
  - **Areas** report - showing all areas or areas within a given region.
  - **Sites** report - showing all sites or sites within a given area.
- The data is grouped in 4 sections: **Status**, **Usage, Performance** and **Availability**.
  - For a complete list of available reported metrics, refer to the VAS_UserGuide pg. 44.

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ClientVantage Agentless Monitoring

- Let's go over some of the Enterprise Platform based reports…

Network View - Areas - Jun/18/2003 04:25 AM EDT

Regions | Areas | Locations

Wednesday, 6/18/03 << Previous Day

Network View - Areas Find: in Area Find Reset

Area	Usage	Availability		Performance					
	Active Hosts	User Experience	Affected Hosts	User Experience	Affected Hosts	RTT End-to-End	RTT to Location	Downstream Loss Rate	Upstream Loss Rate
Japan	3	100%	0	94.8%	1	424 ms	380 ms	1.2%	1%
Brasil	22	98.9%	3	16%	2	445 ms	367 ms	20.1%	0.9%
Poland	101	99.1%	12	93.9%	57	142 ms	114 ms	4.8%	4.7%
France	257	97.5%	20	84.9%	145	127 ms	105 ms	18.6%	9.1%
Spain	47	98.3%	3	91.7%	11	211 ms	155 ms	11.2%	14.7%
United Kingdom	161	98.3%	27	88.4%	107	85.2 ms	43.2 ms	5.8%	7.2%
Italy	955	98.8%	57	95%	396	80.9 ms	50.9 ms	3.8%	3.1%
Belgium	77	98.9%	16	97%	40	68.1 ms	47.2 ms	4.9%	5.2%
Austria	352	98.9%	30	87%	190	94.6 ms	20.1 ms	1.1%	1.4%
Default	1.71 k	99.1%	175	79.9%	795	177 ms	103 ms	26.1%	29%

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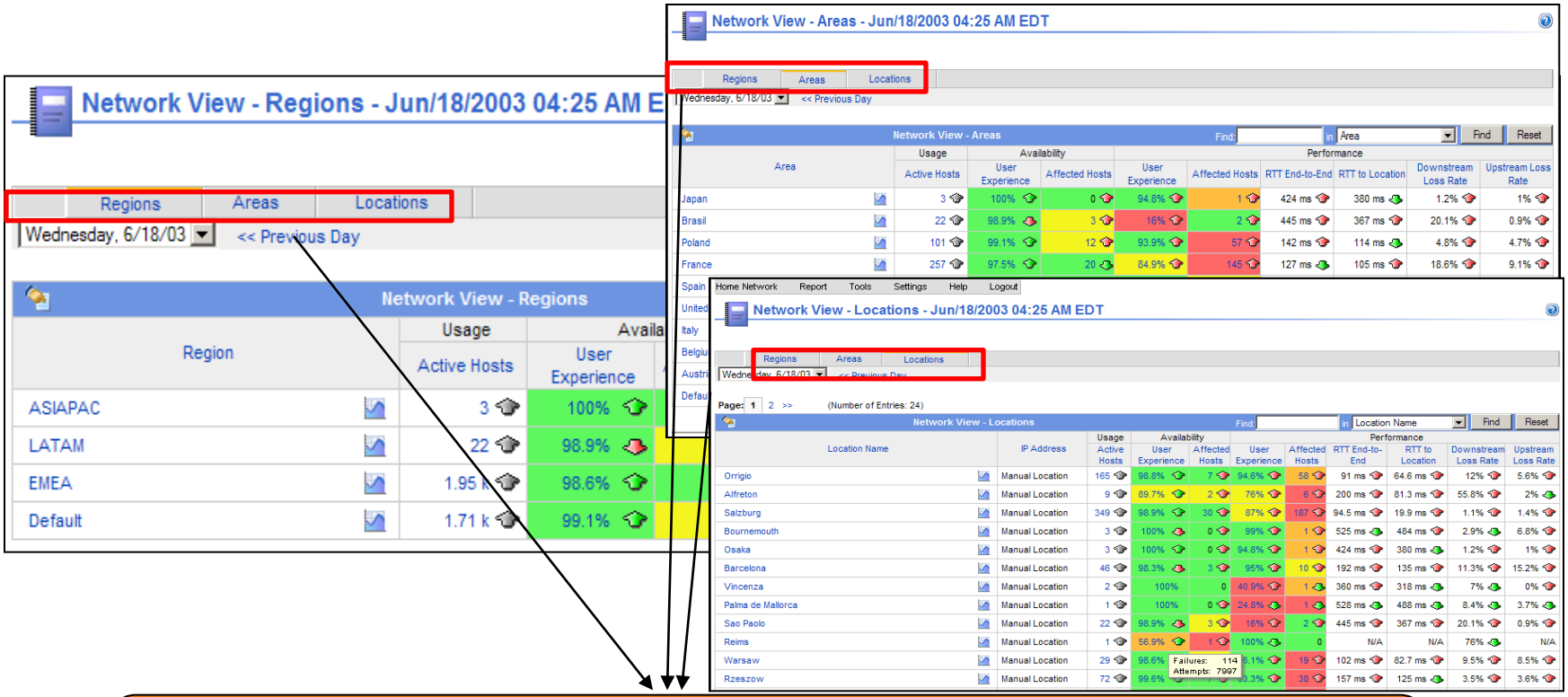
- Network / Regional Performance Overview



Users can be logically separated by their Location. Subnet mapping over WANs is easily mapped into views that focus on the "normality" and "acceptability" of the Network Performance

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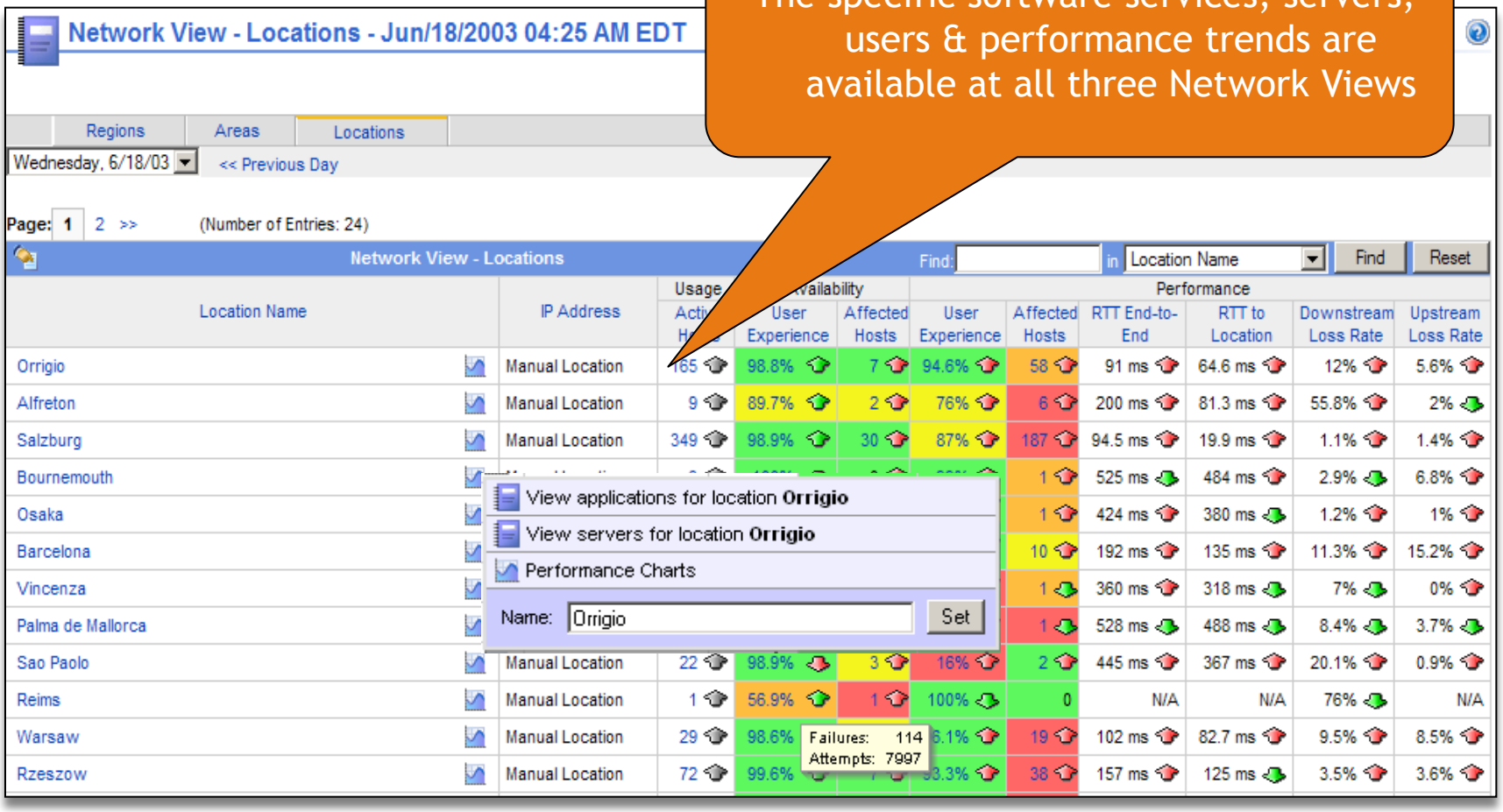
Network / Location Performance Overview

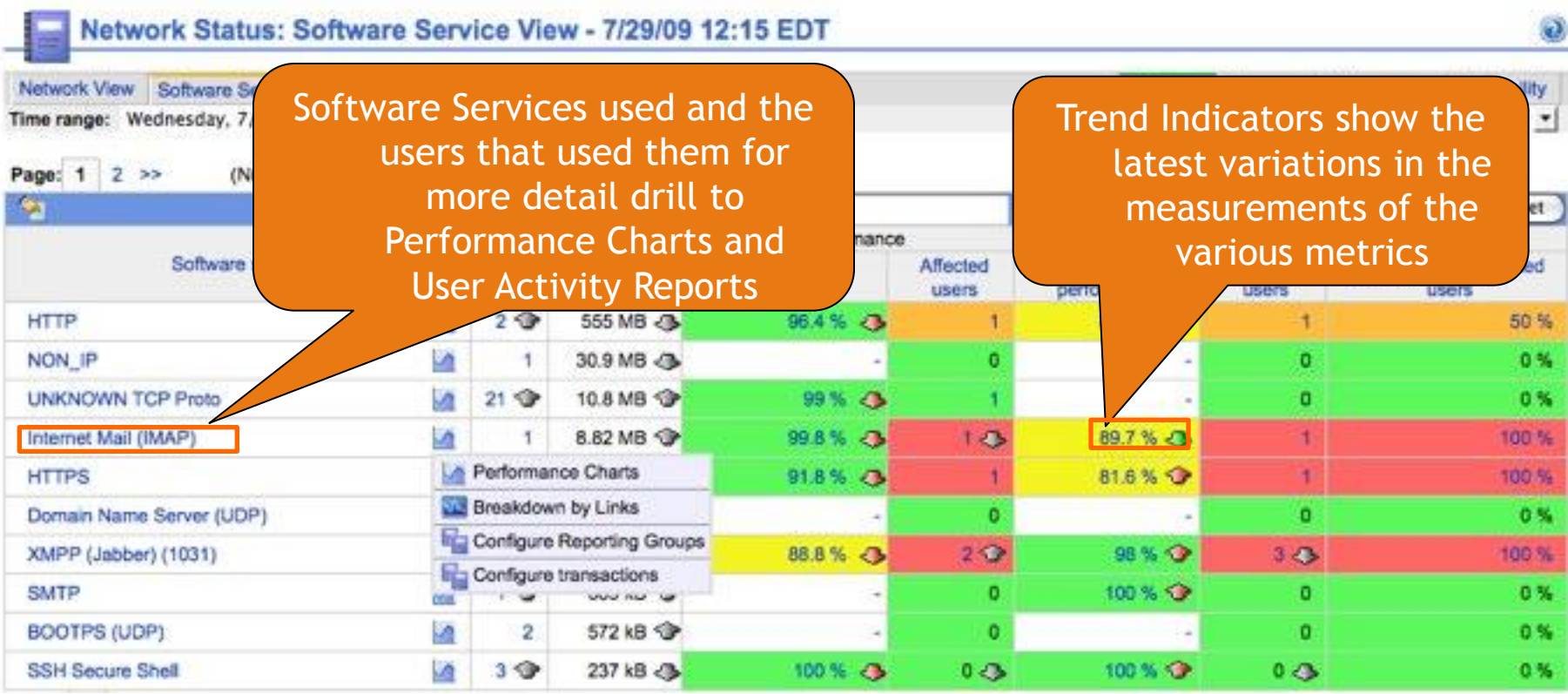
The specific software services, servers, users & performance trends are available at all three Network Views



This document was produced by Compuware's Global Learning.

Data Reporting

Network / Location → Software Services Overview



Software				Affected users			
HTTP	2	555 MB	96.4 %	1		1	50 %
NON_IP	1	30.9 MB	-	0	-	0	0 %
UNKNOWN TCP Proto	21	10.8 MB	99 %	1	-	0	0 %
Internet Mail (IMAP)	1	8.82 MB	99.8 %	1	89.7 %	1	100 %
HTTPS			91.8 %	1	81.6 %	1	100 %
Domain Name Server (UDP)			-	0	-	0	0 %
XMPP (Jabber) (1031)			88.8 %	2	98 %	3	100 %
SMTP			-	0	100 %	0	0 %
BOOTPS (UDP)	2	572 kB	-	0	-	0	0 %
SSH Secure Shell	3	237 kB	100 %	0	100 %	0	0 %

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Network Performance Affected Hosts Report

Network Performance Affected Hosts - 7/29/0

Region: Internet
Displaying hosts active only during business hours

Higher Level

All Hosts | Network Performance Affected Hosts | Avai

Time range: Wednesday, 7/29/09 (Today) << 7/29/09 00:00 - 7/29/09 12:25 >>

Page: 1 2 3 4 5 6 7 8 9 10 >> (Number of entries: 95)

Find: in Local host name/Aggregation block Find Reset

Local host name/Aggregation block	Region	Area	Site			TCP Traffic						Total Traffic
						Availability	Attempts	Failures	Network performance relevant bytes	Network performance affected bytes	Network performance	Total bytes
cpe-069-134-227-246.nc.res.rr.(69.134.227.246)	Internet	Internet	Road Runner HoldCo LLC			100 %	2.5 k	1	585 MB	65.7 MB	88.6 %	590 MB
fm73.wuncfm.unc.edu (152.2.63.73)	Internet	Internet	University of N arolina			100 %	2	0	24.3 MB	18.9 MB	22.3 %	24.3 MB
64.147.163.183			al Networtex, Inc			100 %	1	0	5.78 MB	5.78 MB	0 %	5.78 MB
rdc-024-025-026-051.southeast.rr.com (2			Co LLC			100 %	6	0	3.2 MB	3.19 MB	0.3 %	3.2 MB
12.29.100.25			xpress			100 %	2	0	2.79 MB	9 B	66.9 %	2.79 MB
storage3.flickr.vip.ac4.yahoo.com (76.13.			oration			100 %	4	0	1.99 M	MB	36.1 %	1.99 MB
storage4-dsr.flickr.vip.ac4.yahoo.com (76.13.18.77)	Internet	Internet	Inktomi Corporation			100 %	5	0		3 MB	29.6 %	1.75 MB
204.9.177.195	Internet	Internet	SIX AP								58 %	1.05 MB
network-098-027-088-041.ohiordc.rr.com (98.27.88.41)	Internet	Internet	Road Runner Ho								7 %	1023 kB
rdc-024-025-026-011.southeast.rr.com (24.25.26.11)	Internet	Internet	Road Runner Ho								8 %	1017 kB

Network Performance or Availability Affected User

Drill down to detailed user activity reports

Network Performance for each user is base-lined and displayed in terms of deviation from Normal

Data Reporting

This document was produced by Compuware's Global Learning.

Data Reporting

User/Server Diagnostics Report

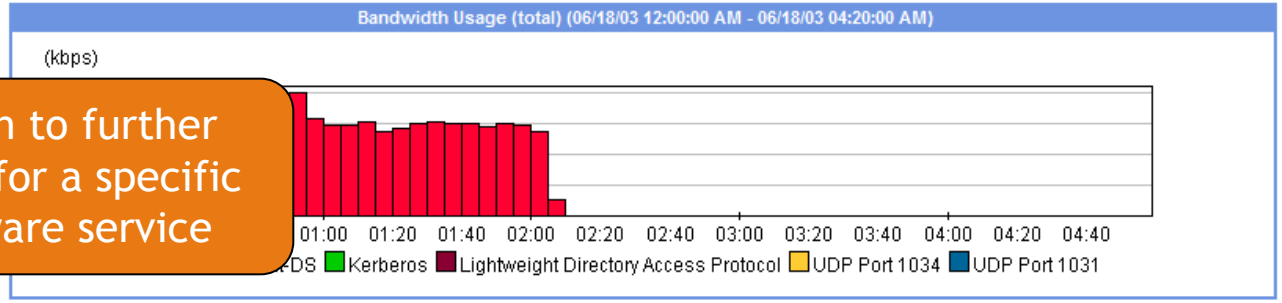
A wide Range of configurable metrics can be viewed for each software service used

User Diagnostics: 192.237.18.112

Wed Jun 18 00:00:00 EDT 2003 - Wed Jun 18 04:20:00 EDT 2003

Application	Port	Server IP	DNS name	Client Bytes	Server Bytes	Total Bytes	Bandwidth Usage (client->server)	Bandwidth Usage (server->client)	Bandwidth Usage (total)	Client Packets	Closed TCP Connections	Connection Refused	Server Session Termination	Client Not Responding	Server Not Responding	C Est
Microsoft-DS	445.0	10.37.31.239	10.37.31.239	25.4 MB	27.9 MB	53.3 MB	27.3 kbps	30 kbps	57.3 kbps	104 k	1	0	0	0	0	0
Kerberos	88.0	10.37.31.124	10.37.31.124	6.15 kB	5.94 kB	12.1 kB	200 bps	200 bps	300 bps	15	2	0	0	0	0	0
Kerberos	88.0	10.37.31.252	10.37.31.252	4.11 kB	4.04 kB	8.15 kB	0bps	0bps	0bps	3	3	0	0	0	0	0
NETBIOS Name Service	137.0	192.237.1.131	192.237.1.131	2.44 kB	2.81 kB	5.25 kB	0bps	0bps	0bps	27	21	0	0	0	0	0
Domain Name Server	53.0	192.237.1.230	192.237.1.230	349 B	1.38 kB	1.72 kB	0bps	0bps	0bps	4	4	0	0	0	0	0
Domain Name Server	53.0	10.37.8.99	10.37.8.99	655 B	270 B	925 B	0bps	0bps	0bps	5	5	0	0	0	0	0
Lightweight Directory Access Protocol	389.0	10.37.31.252	10.37.31.252	346 B	440 B	786 B	0bps	0bps	0bps	2	2	0	0	0	0	0
NETBIOS Name Service	137.0	192.237.1.231	192.237.1.231	276 B	294 B	570 B	0bps	0bps	0bps	3	2	0	0	0	0	0
Lightweight Directory Access Protocol	389.0	10.37.31.124	10.37.31.124	173 B	220 B	393 B	0bps	0bps	0bps	1	1	0	0	0	0	0
Domain Name Server	53.0	192.237.1.130	192.237.1.130	88 B	151 B	239 B	0bps	0bps	0bps	1	1	0	0	0	0	0
UDP Port 1031	1031.0	10.61.57.208	10.61.57.208	0 B	70 B	70 B	0bps	0bps	0bps	0	0	0	0	0	0	0
UDP Port 1031	1031.0	10.86.58.151	10.86.58.151	0 B	70 B	70 B	0bps	0bps	0bps	0	0	0	0	0	0	0
UDP Port 1034	1034.0	10.37.33.97	10.37.33.97	0 B	70 B	70 B	0bps	0bps	0bps	0	0	0	0	0	0	0

Drill down to further detail for a specific software service



This document was produced by Compuware's Global Learning.

Data Reporting

User/Server/Software Service Diagnostics Report

User Diagnostics: 192.237.18.112 with Microsoft-DS on 10.37.31.239

Tabular Graphical

Page: 1 2 >> (Number of Entries: 26)

DMI;Wed Jun 18 00:00:00 EDT 2003 - Wed Jun 18 04:20:00 EDT 2003

When	Client Bytes	Server Bytes	Bandwidth Usage (total)	Server Packets	Closed TCP Connections	Connection Refused	Server Session Termination	Client Not Responding	Server Not Responding	Connection Establishment Timeout	TCP Errors	Attempts	Successful Attempts	Failures	Zero window size events	Client RTT	Server RTT	Client Loss Rate	Server Loss Rate	Availability
06/18/2003 12:00:00 AM	0.98 MB	1 MB	55.3 kbps	3.89 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.74 %	0.75 %	100 %
06/18/2003 12:05:00 AM	997 kB	1.01 MB	55.5 kbps	3.93 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.23 %	1.17 %	100 %
06/18/2003 12:10:00 AM	1.01 MB	1.01 MB	56.6 kbps	4.03 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.25 %	0.82 %	100 %
06/18/2003 12:15:00 AM	1.07 MB	1.08 MB	60.1 kbps	4.22 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.31 %	0.52 %	100 %
06/18/2003 12:20:00 AM	1.07 MB	1.08 MB	60.1 kbps	4.24 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.26 %	0.42 %	100 %
06/18/2003 12:25:00 AM	1.04 MB	1.04 MB	58.1 kbps	4.12 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.29 %	0.53 %	100 %
06/18/2003 12:30:00 AM	1.04 MB	1.05 MB	58.4 kbps	4.1 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.27 %	0.66 %	100 %
06/18/2003 12:35:00 AM	1.02 MB	1.05 MB	58.1 kbps	4.11 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.41 %	0.66 %	100 %
06/18/2003 12:40:00 AM	1.04 MB	1.04 MB	58.2 kbps	4.12 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.24 %	0.53 %	100 %
06/18/2003 12:45:00 AM	1.03 MB	1.04 MB	57.9 kbps	4.12 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.22 %	0.7 %	100 %
06/18/2003 12:50:00 AM	0.99 MB	1.85 MB	79.4 kbps	4.56 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.28 %	0.48 %	100 %
06/18/2003 12:55:00 AM	1.08 MB	1.16 MB	62.5 kbps	4.38 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.16 %	0.16 %	100 %
06/18/2003 01:00:00 AM	1.01 MB	1.07 MB	58.3 kbps	4.1 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.53 %	0.59 %	100 %
06/18/2003 01:05:00 AM	1 MB	1.12 MB	59.2 kbps	4.15 k	0	0	0	0	0	0	0	1	1	0	0	0.0 ms	0.0 ms	0.6 %	0.7 %	100 %
06/18/2003 01:10:00 AM	1.03 MB	1.14 MB	61.6 kbps	[illegible]	[illegible]	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Look for Window sizing issues that could mean desktop congestion

See a table of containing the user's activity on a specific software service on a specific server

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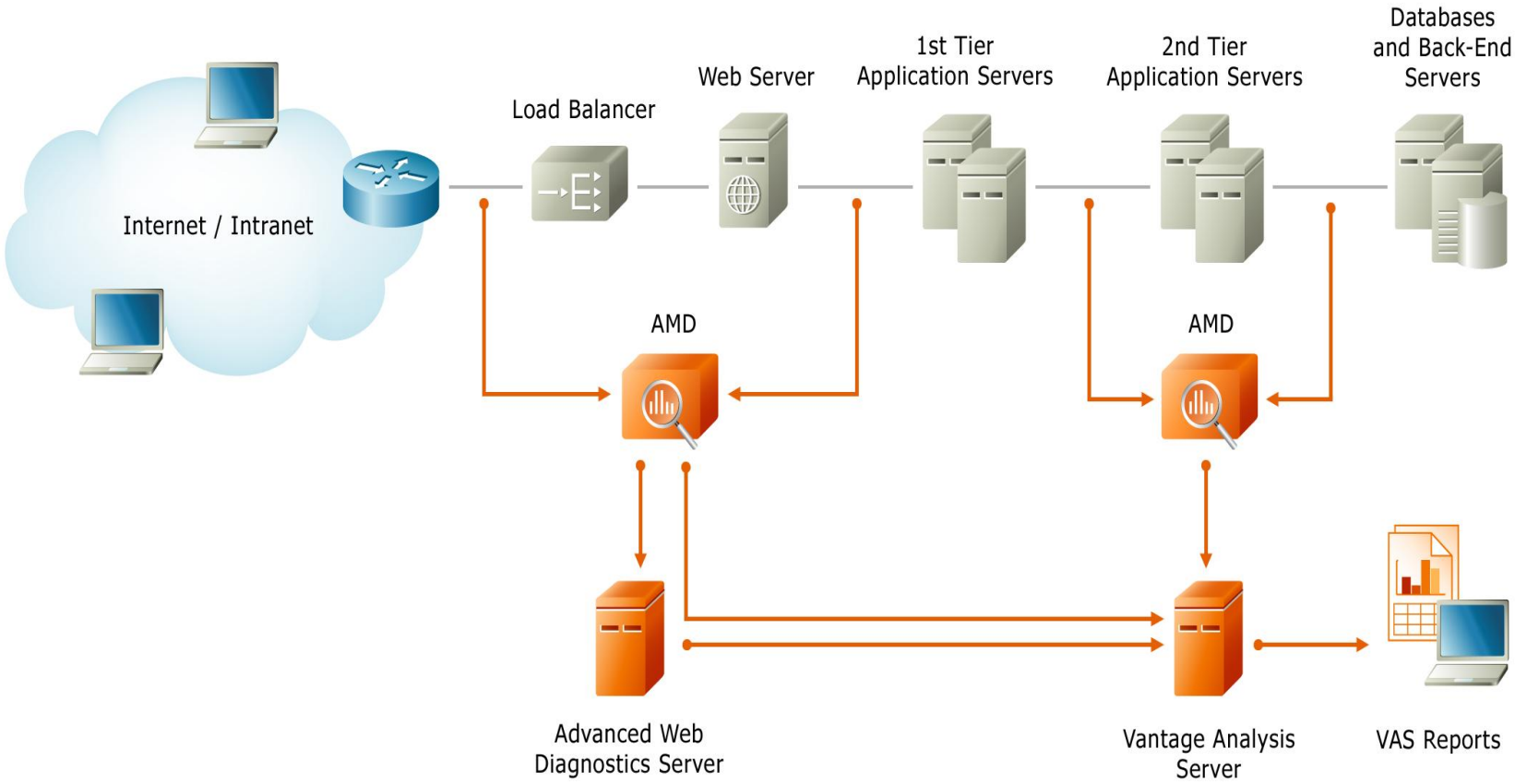
Sample Vantage VAS/AWDS/AMD Web Architecture



This document was produced by Compuware's Global Learning.

Website View *(Use online demo)*

- The reports grouped in the Website Status Menu provide detailed information about website operation based on the analysis of the HTTP, HTTPS, and SSL protocols.

- The reports available are:
  - Software Services
  - Servers
  - URLs
  - Sites
  - Reporting Groups

- The reported metrics are grouped in 4 sections: **Status**, **Usage**, **Performance** and **Availability**.
  - For a complete list of available reported metrics, refer to the VAS_UserGuide, pg.98.

This document was produced by Compuware's Global Learning.

Let's go over some of the Web Platform based reports…

Website Status: Software services - 7/29/09 13:30 EDT

Software services | Servers | URLs | Sites | Reporting Groups

Time range: Wednesday, 7/29/09 (Today) << 7/29/09 00:00 - 7/29/09 13:30 >>

Find:

Software service	Usage		Performance		
	Pages	Unique users	Slow pages	Application performance	Affected
HTTP	2.76 k	3	100	96.4 %	
HTTPS	566	1	46	91.9 %	
Totals for Website: Software services					
Whole Site	3.33 k	3	146	95.6 %	

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Data Reporting

VAS Software Services Performance Overview Report

Color Coded Cells quickly alert you to "normality" of the situation

Website Status: Software services - 7/29/09 13:30 EDT

Software services | Servers | URLs | Sites | Reporting Groups

Time range: Wednesday, 7/29/09 (Today) << 7/29/09 00:00 - 7/29/09 13:30 >>

Performance: the percentage of pages loaded in less than a predefined performance target (by default it is 8 seconds).

Background color indicates Performance degradation

<50% | 70% - 50% | 90% - 70% | 100% - 90%

Software service	Usage		Performance		
	Pages	Unique users	Slow pages	Application performance	Affected
HTTP	2.76 k	3	100	96.4 %	
HTTPS	566	1	46	91.9 %	
Totals for Website: Software services					
Whole Site	3.33 k	3	146	95.6 %	

Drill Downs and Pop Ups provide quick detail to help put things into perspective

Percentage of Affected Users 55.3%

Click to open Users Performance Overview report

This document was produced by Compuware's Global Learning.

VAS Servers Performance Overview Report

Website Status: Servers - 7/29/09 13:35 EDT

Software services | Servers | URLs | Sites | Reporting Groups | Status | Usage | Performance | Availability

Time range: Wednesday, 7/29/09 (Today) << 7/29/09 00:00 - 7/29/09 13:35 >> Show: All

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 80 >> (Number of entries: 798)

Find: in Server name Find Reset

Server name	Server IP address	Software service	Usage		Performance				Availability	
			Pages	Unique users	Slow pages	Application performance	Affected users	Page load time	Pages stopped	Errors
rdc-024-025-026-050.southeast.rr.com	24.25.26.50	HTTP	142	1	0	100 %	0	59.6 ms	0	0
fe.api.del.vip.ac4.yahoo.net	76.13.6.208	HTTPS	139	1	0	100 %	0	246 ms	0	1
rdc-024-025-026-089.southeast.rr.com	24.25.26.89	HTTP	134	1	0	100 %	0	51.8 ms	0	0
amail.compuware.com	12.188.201.38	HTTPS	66	1	9	86.4 %	1	5.46 s	0	0
128.121.146.100	128.121.146.100	HTTPS	57	1	0	100 %	0	665 ms	0	0
204.176.49.2	204.176.49.2	HTTP	56	1	0	100 %	0	330 ms	0	0
yx-in-f17.google.com	74.125.45.17	HTTP	55	1	0	100 %	0	878 ms	0	0
www.13.06.ash1.facebook.com	69.63.186.31	HTTP	46	1	0	100 %	0	650 ms	0	0

Long Stopped Pages are those that were aborted some time after the Performance SLA was violated.

Short Stopped Pages:	14854
Long Stopped Pages:	14840
Percentage of Stopped Pages:	5.9%

Long Stopped Pages are a great way to gauge user frustration

This document was produced by Compuware's Global Learning.

Data Reporting

VAS URLs Performance Overview Report

URL Performance Overview - Oct/12/2004 12:00 AM EDT

Applications | Servers | URLs | Locations | Reporting Groups

Monday, 10/11/04 << Previous Day Show: All

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 20 >> (Number of Entries: 198)

URL Performance Find: in URL Name Find Reset

URL Name	Server IP Address	Application	Usage			Performance					Availability	
			Pages	Users	Number of hits	Slow Pages	Performance	Affected Users	Page Load Time	Page Size	Pages Stopped	Errors
https://boltsandthin...ProcessMA_RMVInquiry	10.147.222.210	SSL DECRYPTED	19	11	99	6	68.4%	5	9.99 s	11.1 kB	4	0
https://boltsandthin...rocessPolChgReActVeh	10.147.222.210	SSL DECRYPTED	1	1	2	1	0%	1	9.16 s	69.6 kB	0	0
https://boltsandthin...c=ProcessReportOrder	10.147.222.210	SSL DECRYPTED	2.02 k	703	5.26 k	1.04 k	48.3%	496	8.86 s	9.24 kB	4	151
https://boltsandthin...ransactionSearchList	10.147.222.210	SSL DECRYPTED	706	273	2.04 k	335	52.5%	150	8.74 s	24.3 kB	3	13
https://boltsandthin...asp?proc=SearchOther	10.147.222.210	SSL DECRYPTED	874	484	11.1 k	21	97.6%	6	7.83 s	8.36 kB	3.04 k	6.8 k
https://boltsandthin...c=ProcessPLissueInfo	10.147.222.210	SSL DECRYPTED	3.08 k	786	17.8 k	438	85.8%	241	7.4 s	9.7 kB	46	220
https://boltsandthin...ProcessDriverGenInfo	10.147.222.210	SSL DECRYPTED	410	181	2.56 k	88	78.5%	63	6.87 s	37.7 kB	1	12
https://boltsandthin...ocessQuoteSearchList	10.147.222.210	SSL DECRYPTED	301	118	888	73	75.7%	42	6.63 s			
https://boltsandthin...ateway.asp?proc=Hook	10.147.222.210	SSL DECRYPTED	71	35	412	4	94.4%	4	6.49 s			
https://boltsandthin...rocessEFTInformation	10.147.222.210	SSL DECRYPTED	33	25	196	9	72.7%	6	6.27 s			

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 20 >> (Number of Entries: 198)

TCP errors
- Connection Refused: 1107
- Connection Establishment Timeout: 0
- Client Not Responding: 51
- Server Not Responding: 10604

HTTP errors
- 5xx Server Errors:: 54
- 4xx Server Errors:: 11449
- 404 Not Found:: 11406
- 401 Unauthorized:: 0

SSL errors
- SSL Error 1: 0
- SSL Error 2: 0
- Other SSL Errors: 12829

Many different types of errors are displayed at all levels (Software Service, Server, Transaction, User, etc).

This document was produced by Compuware's Global Learning.

VAS Reporting Groups Performance Overview Report

Reporting Group Performance Overview - Oct/12/2004 12:00 AM EDT

Applications | Servers | URLs | Locations | Reporting Groups

Monday, 10/11/04 << Previous Day Show: All

Reporting Groups Performance Overview Find: in Reporting Group Find Reset

Reporting Group	Usage		Performance			Availability			
	Pages	Users	Slow Pages	Performance	Affected Users	Pages Stopped	Errors	TCP Availability	HTTP Availability
SCP	18.4 k	1.43 k	802	95.6%	383	209	1.7 k	100%	100%
POS Agents	88.3 k	2.22 k	2.53 k	97.1%	755	3.61 k	13 k	100%	98.1%
POS Direct	33.4 k	1.6 k	2.55 k	92.3%	789	402	3.36 k	100%	100%
Sales Re	474 k	3.03 k	9.9 k	97.9%	1.69 k	29.7 k	36.1 k	99.5%	99.1%
CAP	25.5 k	1.47 k	1.27 k	95%	471	332	2.67 k	100%	100%
General Web	474 k	3.03 k	9.9 k	97.9%	1.69 k	29.7 k	36.1 k	99.5%	99.1%
Live Quote	36.4 k	1.54 k	3.3 k	90.9%	852	466	3.61 k	100%	100%

Report Groups can be used to logically organize Servers, ports, apps, transactions, etc.

These Groups are based on parameterized URLs

This document was produced by Compuware's Global Learning.

Affected Users Overview Report

Affected Users - Oct/12/2004 12:00 AM EDT

Higher Level

Reporting Group: Live Quote

Applications | Servers | URLs | Locations | Reporting Groups

Monday, 10/11/04 << Previous Day

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 43 >> (Number of Entries: 852)

Users | Affected Users

User Name/Aggregation Block	Area	Location Name	Pages	Slow Pages	Performance	Load Time	Pages Stopped	TCP Errors	HTTP Errors
doney005	Internet	Bullseye Telecom(14938)	217	66	69.6%	8.55 s	21	0	0
combi004	Internet	Quantum Connections(13777)	108	64	40.7%	10.8 s	1	0	0
dowbl004	Internet	Sprint(1239)	113	51	54.9%	7.9 s	0	0	0
frabj005	Internet	McLeod, Inc.(7228)	40	40	0%	21 s	8	0	0
combb004	Internet	AT&T(7018)	89	40	55.1%	7.91 s	0	0	0
grahm001	Internet	CABLE ONE(11492)	220	37	83.2%	5.93 s	12	0	0
bhcac001	Internet	SBC Internet Services(7132)	79	36	54.4%	9.8 s	0	0	0
steaw010	Internet	Choice One Communications Inc(13609)	89	35	60.7%	8.04 s	0	0	0
gasem002	Internet	Internet 123(12129)	32	30	6.3%	15.9 s	0	0	0
insef002	Internet	Comcast Cable(22909)	222	27	87.8%	7.46 s	5	0	0
warcq006	Default	Default	141	26	81.6%	6.54 s	1	0	0
hoago007	Internet	TDS TELECOM(4181)	96	26	72.9%	7.99 s	0	0	0
drlgi002	Internet	AT&T(7018)	64	26	59.4%	7.55 s	9	0	0
sumsu001	Internet	Qwest(209)	66	26	60.6%	7.85 s	0	0	0
meisg001	Internet	SEI Data(7871)	31	25	19.4%	10.9 s	0	0	0
[illegible]	Internet	The Iserv Company(4208)	85	25	70.6%	8.41 s	0	0	0
haxdr001	Internet	Network Telephone Corporation(15105)	81	25	69.1%	6.8 s	1	0	1
burck001	Internet	[illegible] Internet Services(7949)	38	23	39.5%	8.29 s	0	0	0
tialy003	Default	Default	[illegible]	[illegible]	[illegible]	10.6 s	0	0	0

This Report shows both: All Users and those affect by Page Performance Problems

User Names are based on things like HTTP Cookies and Logins

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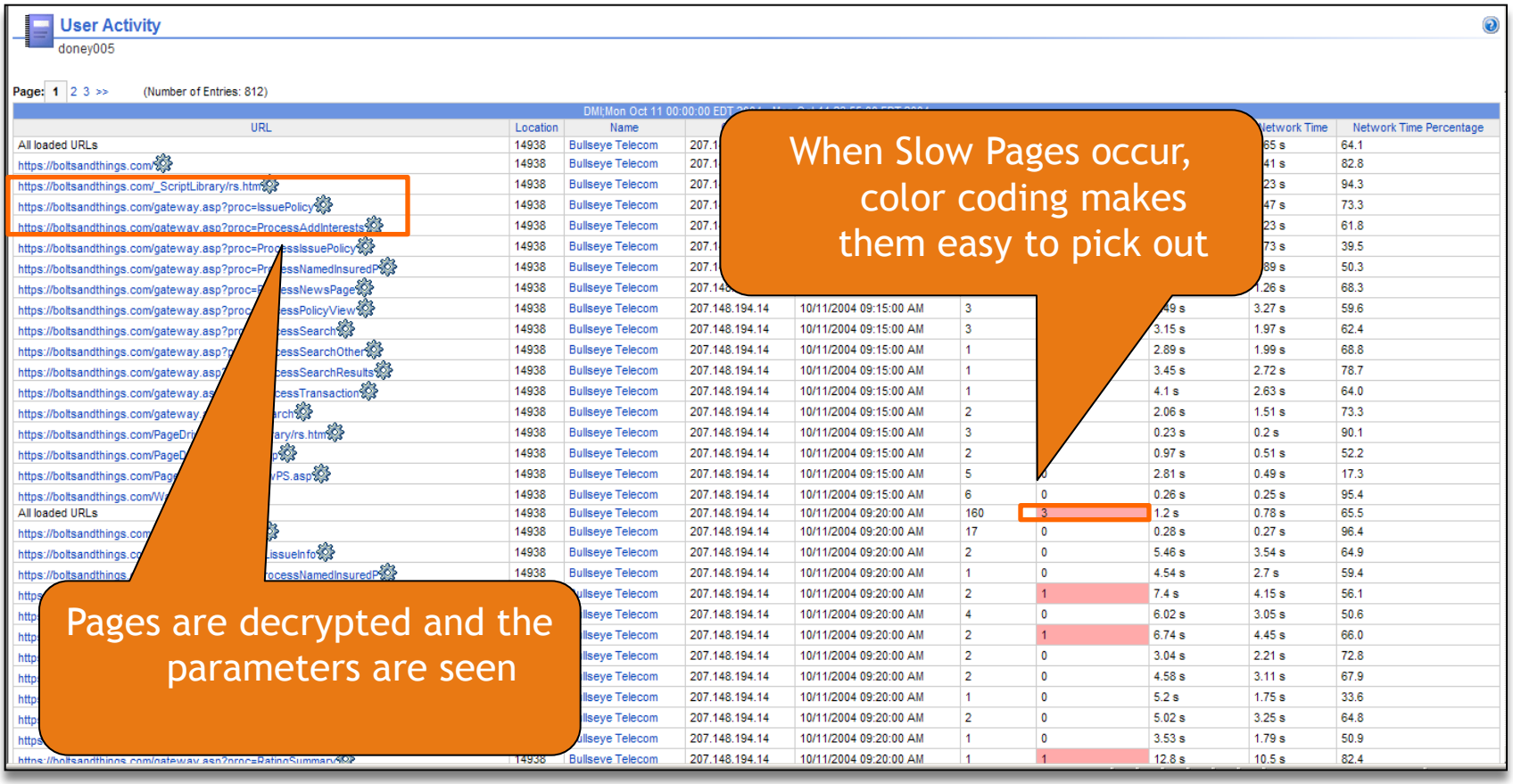
Data Reporting

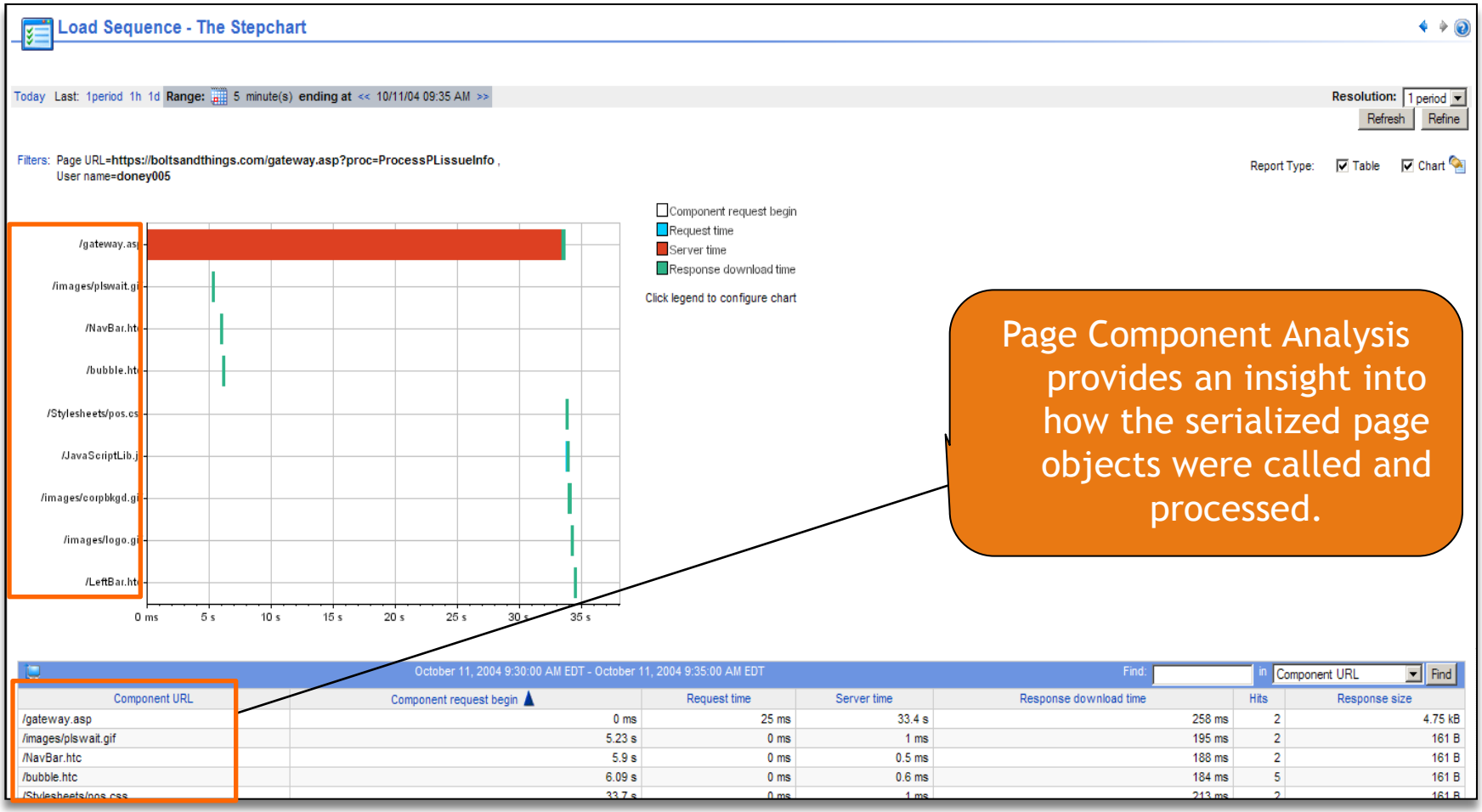
User Activity Report



This document was produced by Compuware's Global Learning.

Data Reporting

Page Load Sequence Report



Component URL	Component request begin	Request time	Server time	Response download time	Hits	Response size
/gateway.asp	0 ms	25 ms	33.4 s	258 ms	2	4.75 kB
/images/plswait.gif	5.23 s	0 ms	1 ms	195 ms	2	161 B
/NavBar.htc	5.9 s	0 ms	0.5 ms	188 ms	2	161 B
/bubble.htc	6.09 s	0 ms	0.6 ms	184 ms	5	161 B
/Stylesheets/pos.css	33.7 s	0 ms	1 ms	213 ms	2	161 B

Page Component Analysis provides an insight into how the serialized page objects were called and processed.

This document was produced by Compuware's Global Learning.

Data Reporting

Drill Down to further fault isolation

Home Website | Custom Reports | Report | Tools | Settings | Help | Logout

Reporting Group Performance Overview - Oct/12/2004 12:00 AM EDT

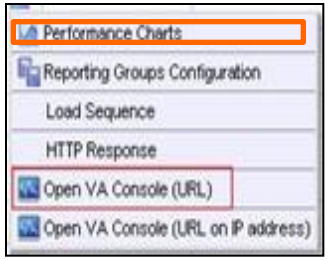
Applications | Servers | URLs | Locations | Reporting Groups

Monday, 10/11/04 << Previous Day Show: All

Reporting Groups Performance Overview Find: in Reporting Group Find Reset

Reporting Group	Usage		Performance			Availability			
	Pages	Users	Slow Pages	Performance	Affected Users	Pages Stopped	Errors	TCP Availability	HTTP Availability
SCP	18.4 k	1.43 k	802	95.6%	383	209	1.7 k	100%	100%
POS Agents	88.3 k	2.22 k	2.53 k	97.1%	755	3.61 k	13 k	100%	98.1%
POS Direct	33.4 k	1.6 k	2.55 k	92.3%	789	402	3.36 k	100%	100%
Sales Reports	474 k	3.03 k	9.9 k	97.9%	1.69 k	29.7 k	36.1 k	99.5%	99.1%
CAP	25.5 k	1.47 k	1.27 k	95%	471	332	2.67 k	100%	100%
General Web	474 k	3.03 k	9.9 k	97.9%	1.69 k	29.7 k	36.1 k	99.5%	99.1%
Live Quote	36.4 k	1.54 k	3.3 k	90.9%	852	466	3.61 k	100%	100%

User: vas@AACRS10:80 Report generated: 1/19/07 9:34 AM Version: 4.6.3.208



Home Website | Custom Reports | Report | Tools | Settings | Help | Logout

URL Performance Overview - Oct/12/2004 12:00 AM EDT

Applications | Servers | URLs | Locations | Reporting Groups

Monday, 10/11/04 << Previous Day Show: All

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 20 >> (Number of Entries: 198)

URL Performance Find: in URL Name Find Reset

URL Name	Server IP Address	Application	Usage			Performance					Availability	
			Pages	Users	Number of hits	Slow Pages	Performance	Affected Users	Page Load Time	Page Size	Pages Stopped	Errors
https://boltsandthin...ProcessMA_RMVInquiry	10.147.222.210	SSL DECRYPTED	19	11	99	6	68.4%	5	9.99 s	11.1 kB	4	0
https://boltsandthin...rocessPolChgReActVeh	10.147.222.210	SSL DECRYPTED	1	1	2	1	0%	1	9.16 s	69.6 kB	0	0
https://boltsandthin...c=ProcessReportOrder	10.147.222.210	SSL DECRYPTED	2.02 k	703	5.26 k	1.04 k	48.3%	496	8.86 s	9.24 kB	4	151
https://boltsandthin...ransactionSearchList	10.147.222.210	SSL DECRYPTED	706	273	2.04 k	335	52.5%	150	8.74 s	24.3 kB	3	13
https://boltsandthin...asp?proc=SearchOther	10.147.222.210	SSL DECRYPTED	874	484	11.1 k	21	97.6%	6	7.83 s	8.36 kB	3.04 k	6.8 k
https://boltsandthin...c=ProcessPLissueInfo	10.147.222.210	SSL DECRYPTED	3.08 k	786	17.8 k	438	85.8%	241	7.4 s	9.7 kB	46	220
https://boltsandthin...ProcessDriverGenInfo	10.147.222.210	SSL DECRYPTED	410	181	2.56 k	88	78.5%	63	6.87 s	37.7 kB	1	12
https://boltsandthin...ocessQuoteSearchList	10.147.222.210	SSL DECRYPTED	301	118	888	73	75.7%	42	6.63 s	92.1 kB	14	8
https://boltsandthin...ateway.asp?proc=Hook	10.147.222.210	SSL DECRYPTED	71	35	412	4	94.4%	4	6.49 s	33.8 kB	25	5
https://boltsandthin...rocessEFTInformation	10.147.222.210	SSL DECRYPTED	33	25	196	9	72.7%	6	6.27 s	35.9 kB	0	3

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 20 >> (Number of Entries: 198)

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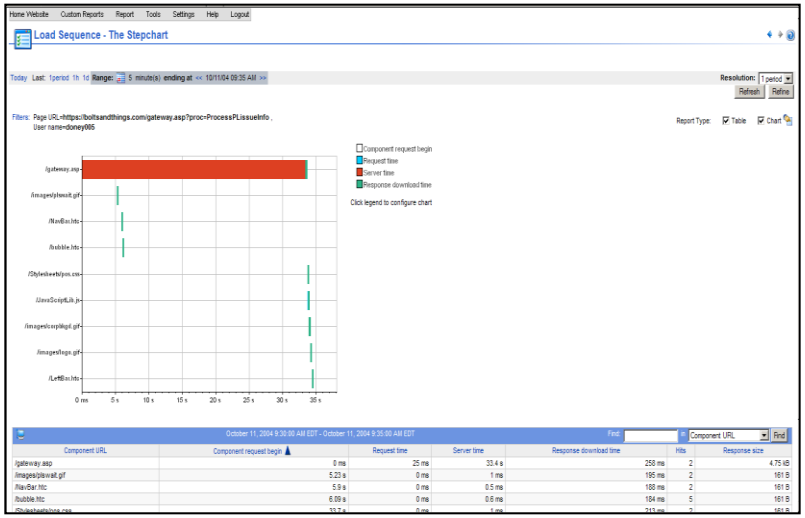
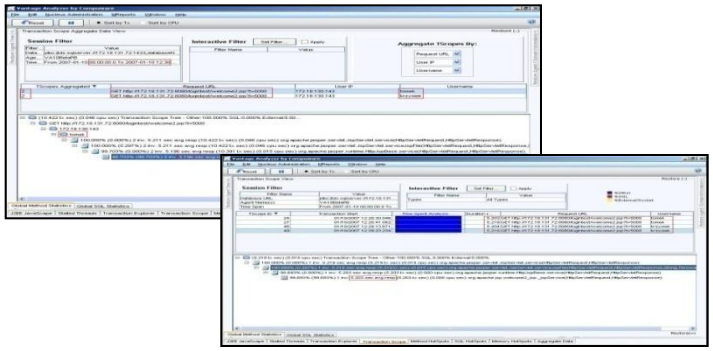
ClientVantage Agentless Monitoring

Performance Charts

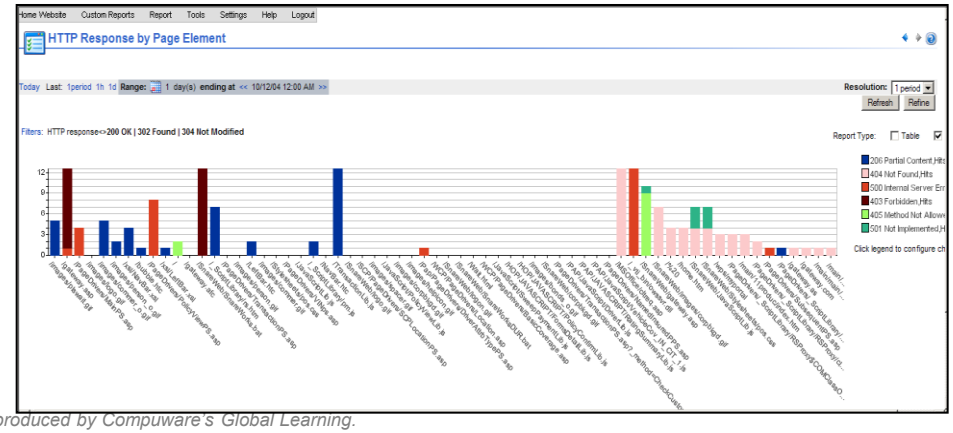
Load Sequence Charts



Thread Level Java/.Net Processing



HTTP Errors: Response Codes



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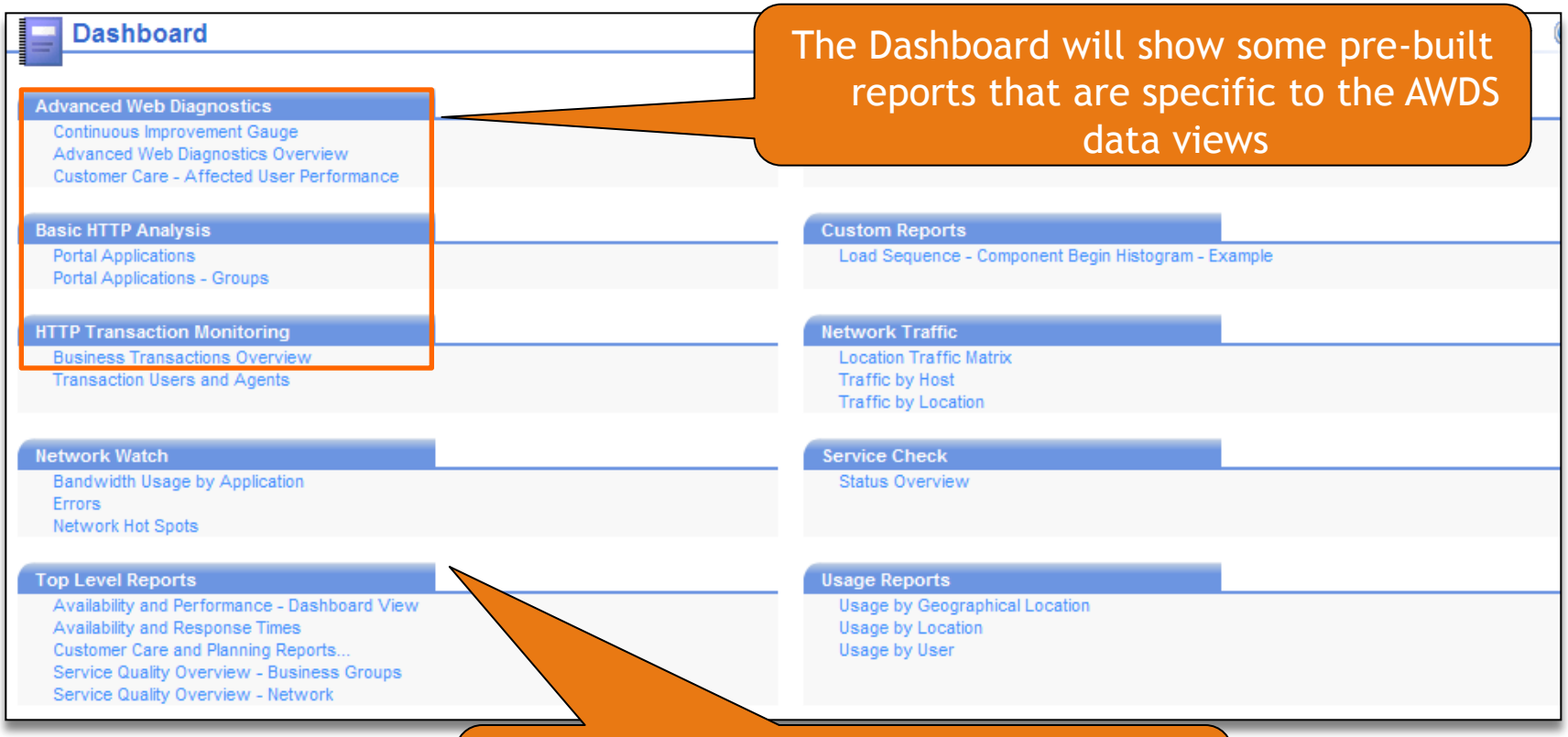
Data Reporting

Advanced Web Diagnostics Server



The Dashboard will show some pre-built reports that are specific to the AWDS data views

This example shows the AWDS and VAS reports on a single "Master" Dashboard

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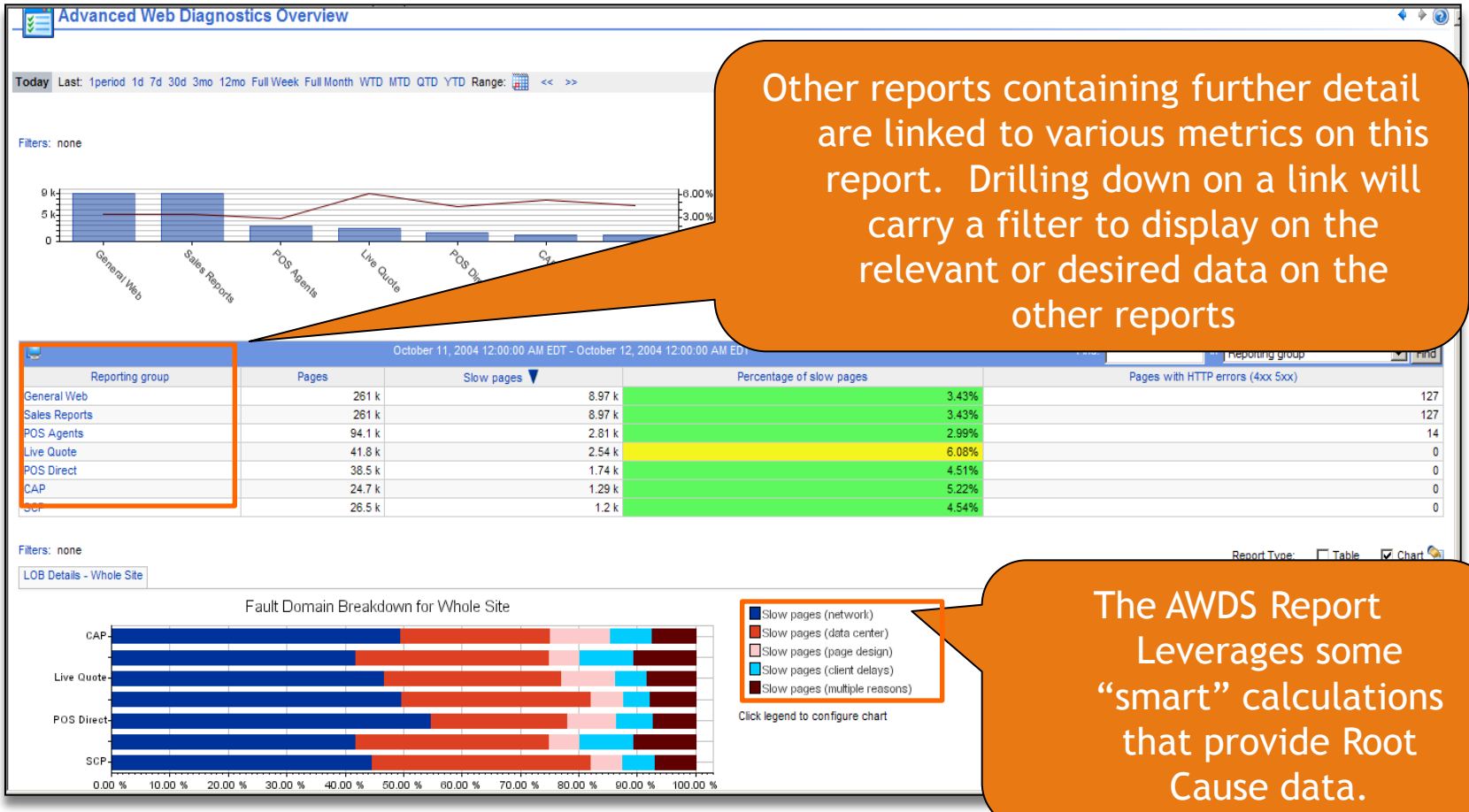
AWDS Automated Root-Cause Report



Other reports containing further detail are linked to various metrics on this report. Drilling down on a link will carry a filter to display on the relevant or desired data on the other reports

The AWDS Report Leverages some “smart” calculations that provide Root Cause data.

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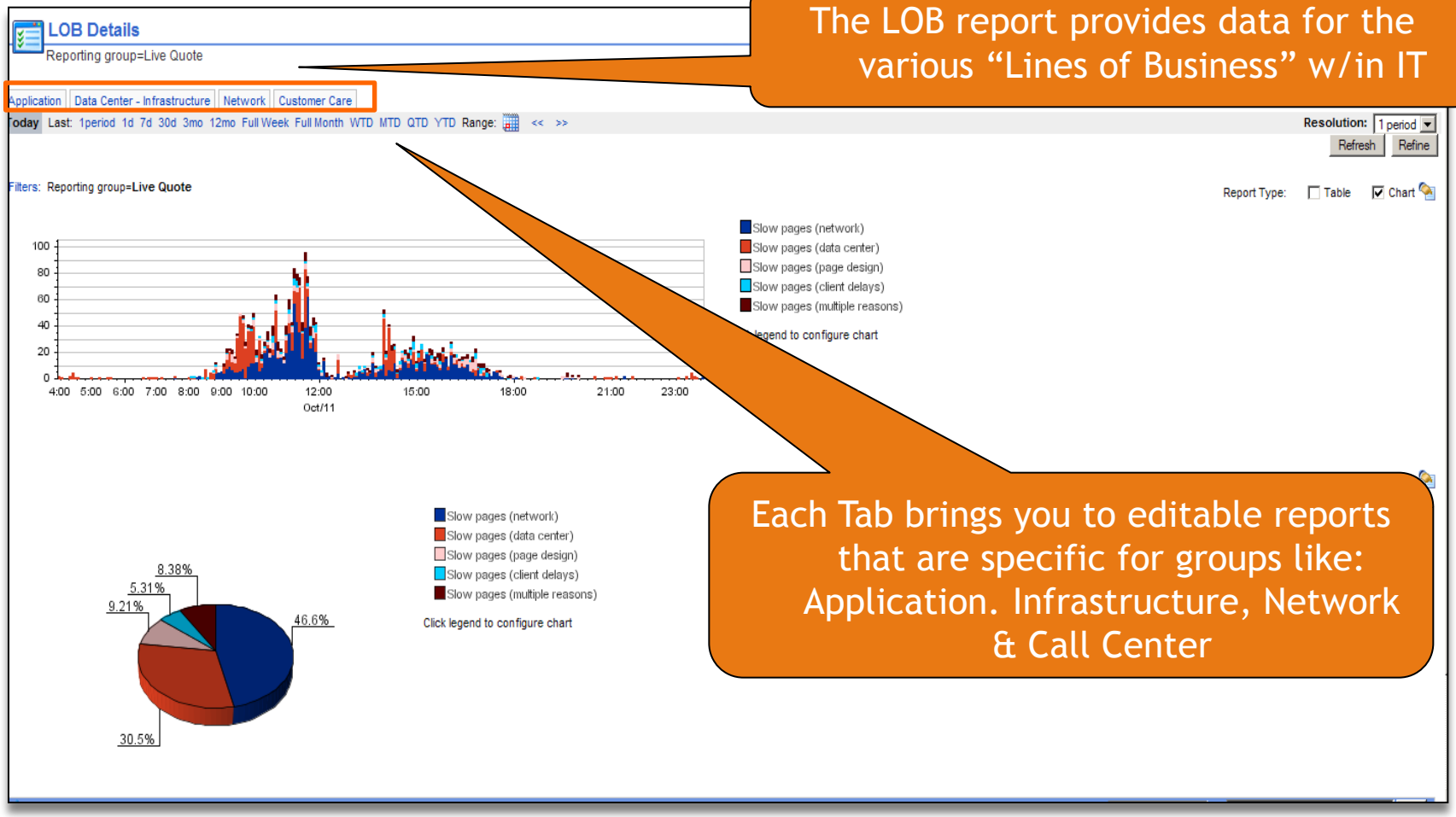
AWDS Line of Business Report



The LOB report provides data for the various "Lines of Business" w/in IT

Each Tab brings you to editable reports that are specific for groups like: Application. Infrastructure, Network & Call Center

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Data Reporting

Fault Domain Reports – Application Issues

Home Website | Custom Reports | Report | Tools | Settings | Help | Logout

Application - URL Performance Overview

Reporting group=Live Quote

Advanced Web Diagnostics Overview | LOB Details

Today | Last: 1period 1d 7d 30d 3mo 12mo Full Week Full Month WTD MTD QTD YTD Range: << >>

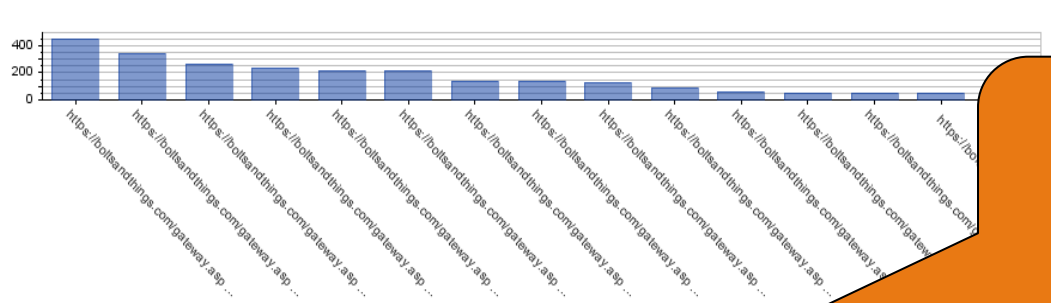
Resolution: 1 period

Refresh | Refine

URL Watch List on Slow Pages

Filters: none

Report Type: Table Chart



An Application group can quickly isolate which pages are slow for possible design issues., user desktop congestion, etc

All URLs for Category

Filters: Reporting group=**Live Quote**

Page: 1 2 >> (Number of Rows: 33)

Report Type: Table Chart

October 11, 2004 12:00:00 AM EDT - October 12, 2004 12:00:00 AM EDT | Find: | in Page URL | Find

Page URL	Pages	Slow pages	Slow pages (page design)	Slow pages (data center)	Slow pages (client delays)	Slow pages (network)	Slow pages (multiple reasons)	Pages with HTTP errors (4xx 5xx)	Aborts
https://boltsandthings.com/gateway.asp?proc=processplissueinfo	3.06 k	449	28	283	17	72	49	0	53
https://boltsandthings.com/gateway.asp?proc=processvehicle	5.02 k	339	48	35	20	212	24	0	122
https://boltsandthings.com/gateway.asp?proc=ratingsummary	3.43 k	264	9	182	11	42	20	0	95
https://boltsandthings.com/gateway.asp?proc=processdriver	3.34 k	236	29	35	15	141	16	0	52
https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	1.82 k	217	31	24	21	121	20	0	40
https://boltsandthings.com/gateway.asp?proc=processtransaction	7.8 k	210	15	15	9	158	13	0	165
https://boltsandthings.com/gateway.asp?proc=processvehiclecov	2.4 k	134	11	66	1	43	13	0	60
https://boltsandthings.com/gateway.asp?proc=plissueinfo	1.88 k	132	7	23	4	86	12	0	33

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Fault Domain Reports – Application Issues – Root Cause

At these specific times, this page was slow due to Page Design.

Page Size and the number of objects have been determined to be the root-causes for the unacceptable PLT.

Slow Page Loads - Page Design

Reporting group=Live Quote

Advanced Web Diagnostics Overview | LOB Details

Today Last: 1period 1d 7d 30d 3mo 12mo Full Week Full Month WTD MTD QTD YTD Range: << >>

Filters: Page URL=**https://boltsandthings.com/gateway.asp?proc=processvehdriverassign** ,
Root cause=**Page Design**

Page: 1 2 >> (Number of Rows: 31)

October 11, 2004 12:00:00 AM EDT - October 12, 2004 12:00:00 AM EDT Find: in Page begin time Find

Page begin time	Page URL	Root cause details	Page load time	Page size	Hits
10/11/04 08:42:06.710	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	9.42 s	84.1 kB	19
10/11/04 09:13:19.639	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	9.38 s	8.8 kB	17
10/11/04 09:26:30.784	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	9.55 s	43.6 kB	19
10/11/04 09:50:36.802	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.12 s	95 kB	18
10/11/04 09:54:32.890	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-Size	9.79 s	176 kB	18
10/11/04 09:57:17.488	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-Size	8.75 s	171 kB	19
10/11/04 10:09:25.896	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	9.56 s	43.7 kB	19
10/11/04 10:17:55.974	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	N/A	N/A	20
10/11/04 10:26:59.787	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.47 s	43.6 kB	19
10/11/04 10:29:03.057	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.11 s	43.6 kB	19
10/11/04 10:31:28.157	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.43 s	43.6 kB	19
10/11/04 10:54:40.452	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	11.6 s	43.6 kB	19
10/11/04 10:59:32.319	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	10.1 s	94.8 kB	19
10/11/04 11:02:13.446	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	13.4 s	21.4 kB	19
10/11/04 11:06:12.735	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-Size	9.41 s	222 kB	30
10/11/04 11:14:27.931	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	10.4 s	83.9 kB	19
10/11/04 11:15:25.689	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	9.66 s	21.4 kB	19
10/11/04 11:30:35.342	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.5 s	43.5 kB	19
10/11/04 11:40:50.029	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	N/A	N/A	21
10/11/04 12:27:46.318	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.64 s	8.47 kB	17
10/11/04 13:33:52.626	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	9.8 s	87.7 kB	19
10/11/04 14:00:33.154	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.55 s	43.5 kB	19
10/11/04 15:37:31.549	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.1 s	43.4 kB	19
10/11/04 16:01:12.096	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	19.3 s	171 kB	19
10/11/04 16:18:01.188	https://boltsandthings.com/gateway.asp?proc=processvehdriverassign	Page Design-No. Of Components	8.04 s	8.48 kB	17

Page: 1 2 >> (Number of Rows: 31)

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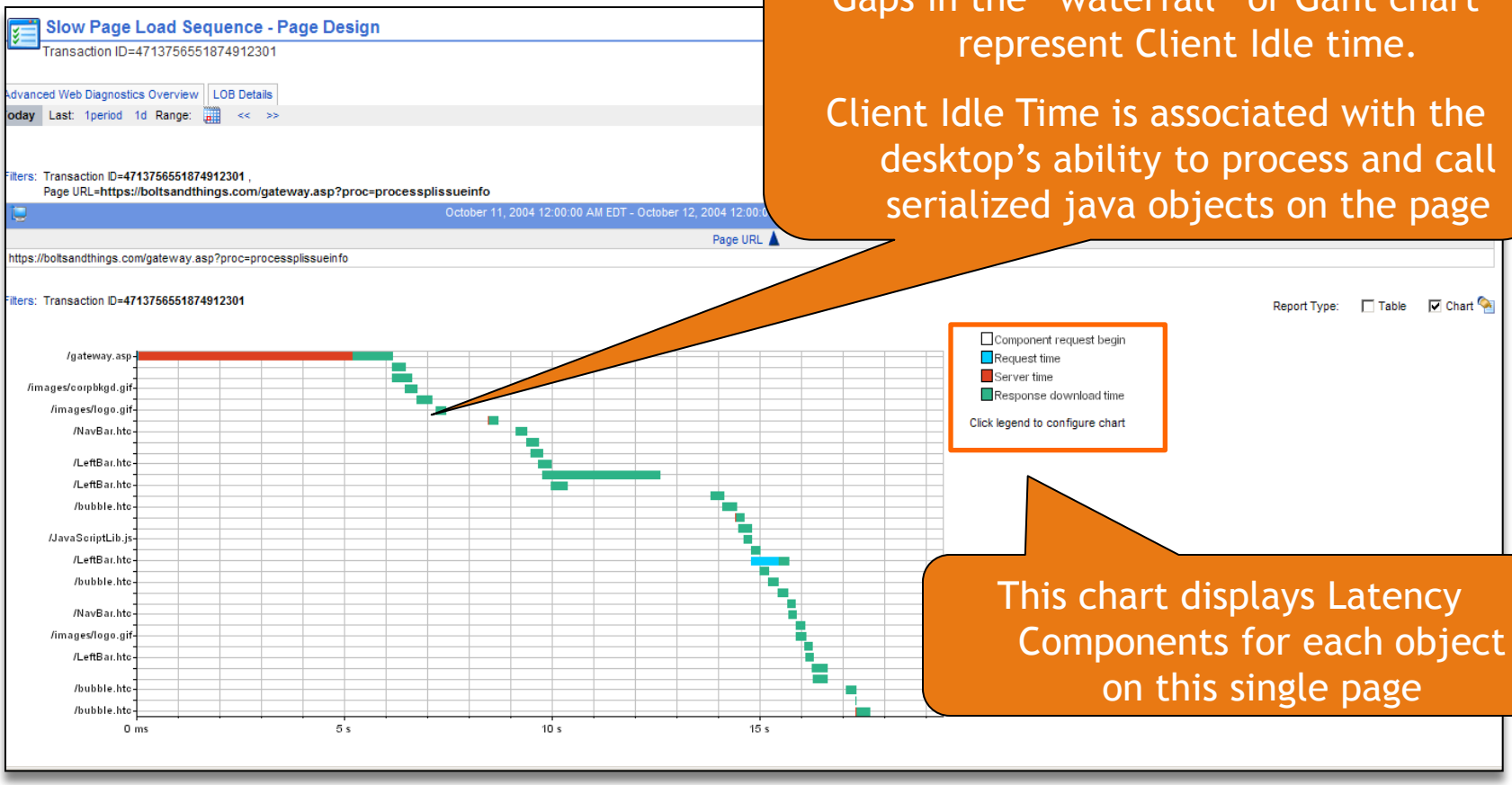
Fault Domain Reports – Application Issues – Root Cause – Page Design – Load Sequence Report



Gaps in the "waterfall" or Gant chart represent Client Idle time.

Client Idle Time is associated with the desktop's ability to process and call serialized java objects on the page

This chart displays Latency Components for each object on this single page

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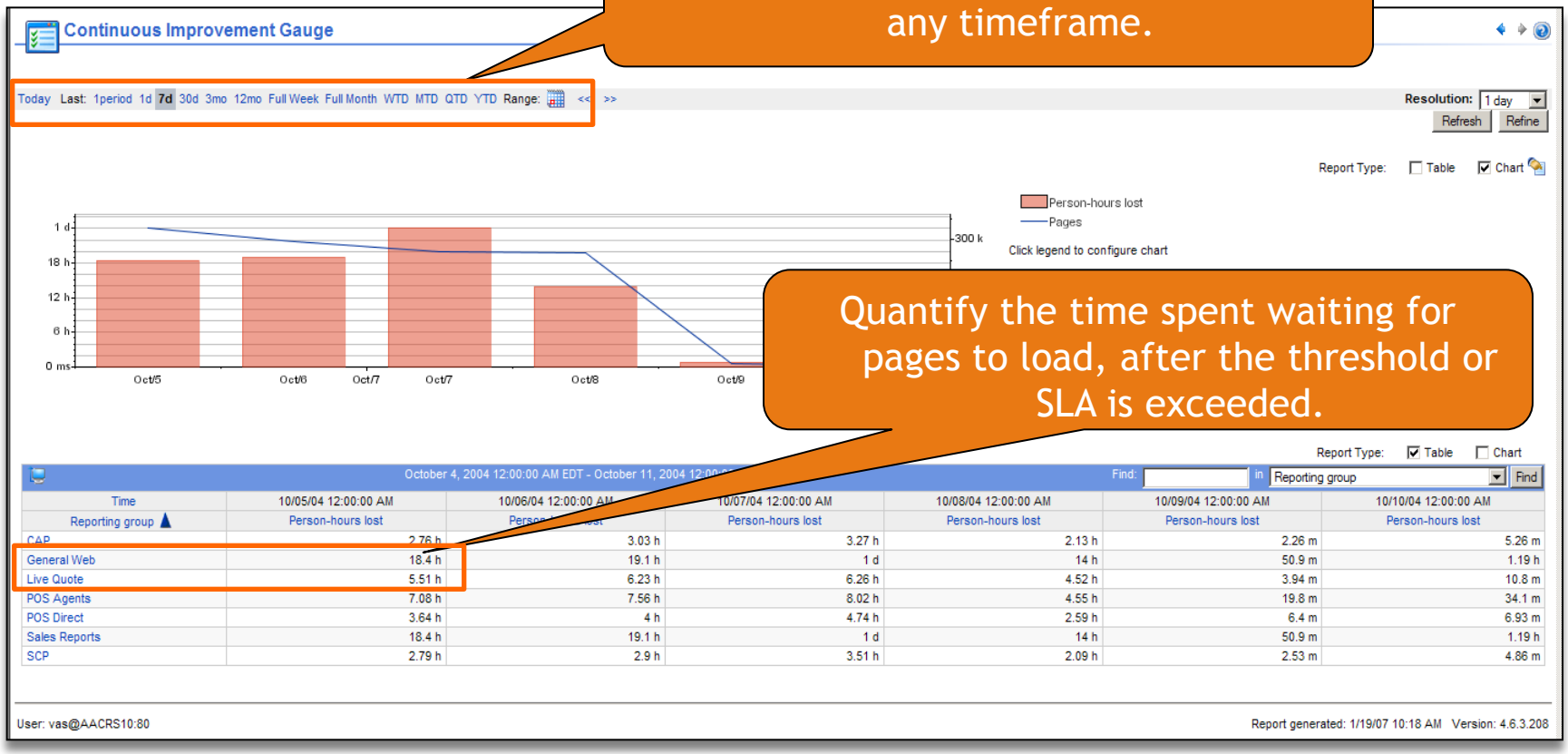
Data Reporting

AWDS Continuous Improvement – People Hours Lost Report

This information can be leveraged for any timeframe.

Quantify the time spent waiting for pages to load, after the threshold or SLA is exceeded.



Time	10/05/04 12:00:00 AM	10/06/04 12:00:00 AM	10/07/04 12:00:00 AM	10/08/04 12:00:00 AM	10/09/04 12:00:00 AM	10/10/04 12:00:00 AM
Reporting group	Person-hours lost	Person-hours lost	Person-hours lost	Person-hours lost	Person-hours lost	Person-hours lost
CAP	2.76 h	3.03 h	3.27 h	2.13 h	2.26 m	5.26 m
General Web	18.4 h	19.1 h	1 d	14 h	50.9 m	1.19 h
Live Quote	5.51 h	6.23 h	6.26 h	4.52 h	3.94 m	10.8 m
POS Agents	7.08 h	7.56 h	8.02 h	4.55 h	19.8 m	34.1 m
POS Direct	3.64 h	4 h	4.74 h	2.59 h	6.4 m	6.93 m
Sales Reports	18.4 h	19.1 h	1 d	14 h	50.9 m	1.19 h
SCP	2.79 h	2.9 h	3.51 h	2.09 h	2.53 m	4.86 m

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DMI

- *(Use online demo)*

- A powerful reporting tool used in Vantage is the Data Mining Interface (DMI).
- The Data Mining Interface (DMI) is a Web-based, interactive, dynamic report building module.
- DMI reports have immediate access to currently available data and can refresh automatically, whenever new data becomes available.
- Trending and baselines data is also available for customized reports.
  - Trending data is transparently used when needed, while baseline data can be mixed with current data on the same screen.

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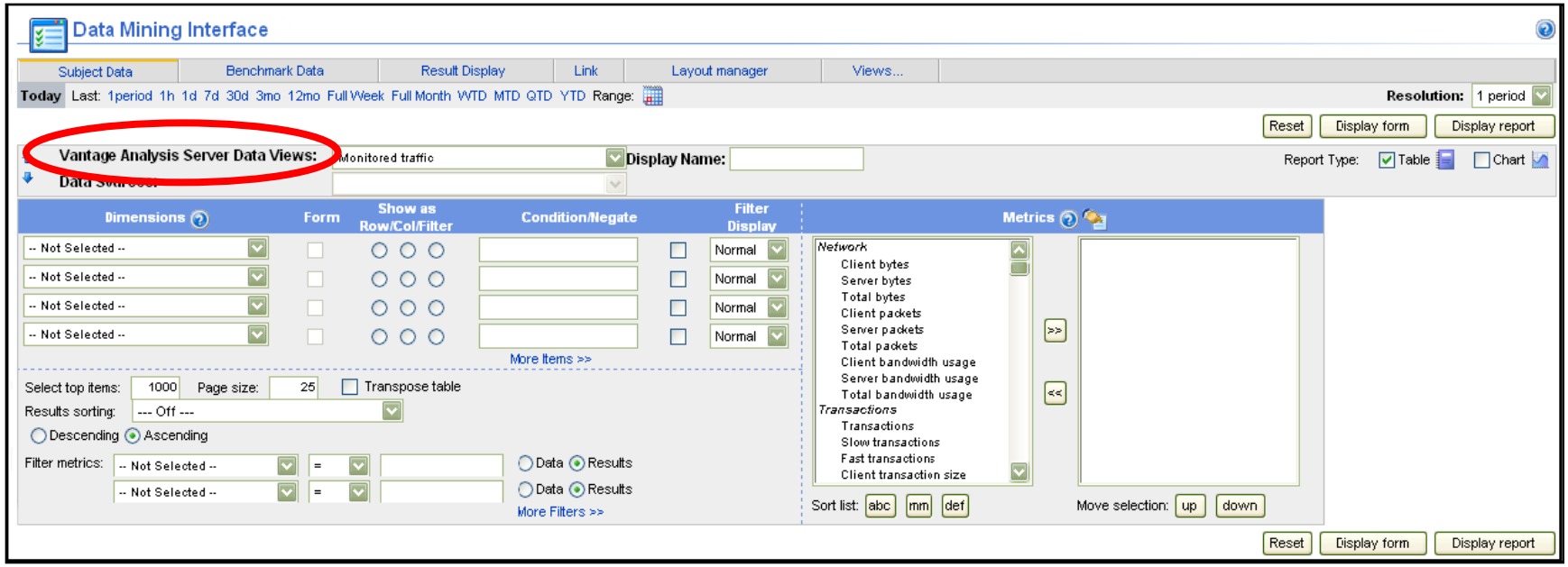
ClientVantage Agentless Monitoring

- The Data Mining Interface (*DMI*) report definition screen is accessed through the **Define Report** option on the **Report** menu.
- The report definition screen is divided into **sections**.
- The name of the application module—for example Vantage Analysis Server—appears in each section on the left-hand side of the header bar.



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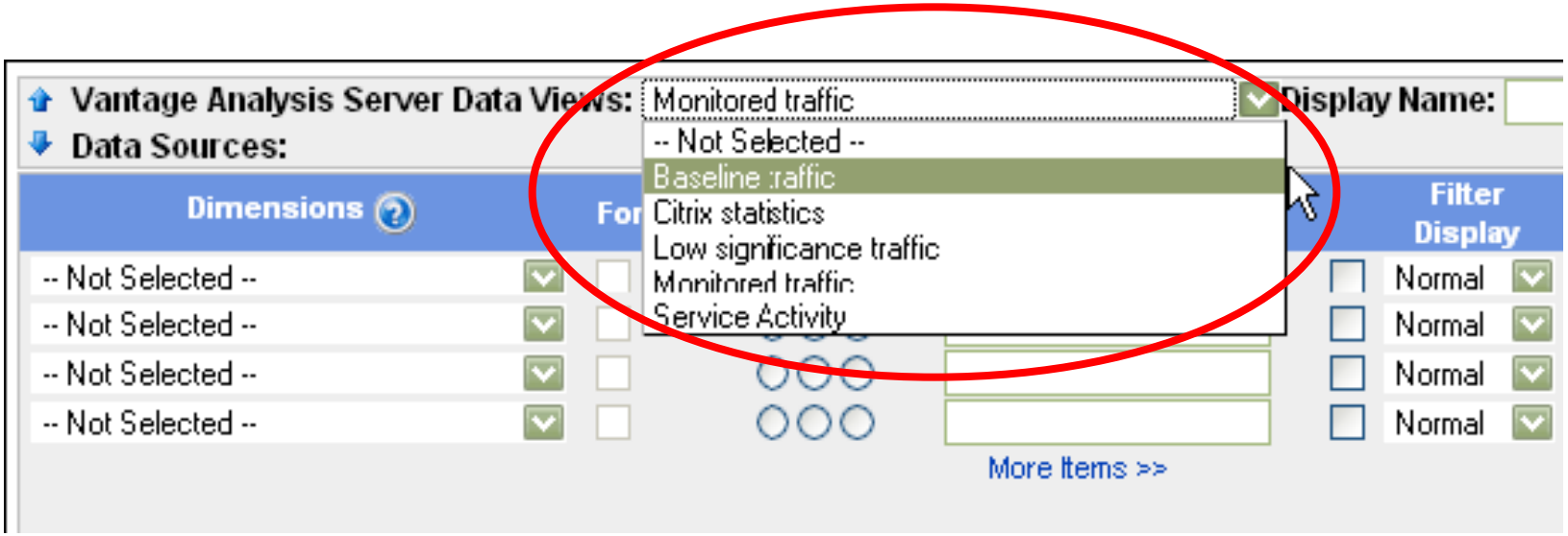
- Within each section—for each application module—you can select a **data view**.
- Data views are sets of dimensions and metrics—maintained internally by DMI—and related to specific issues or topics.
- Data views are selected in the list, positioned to the right of the application name.



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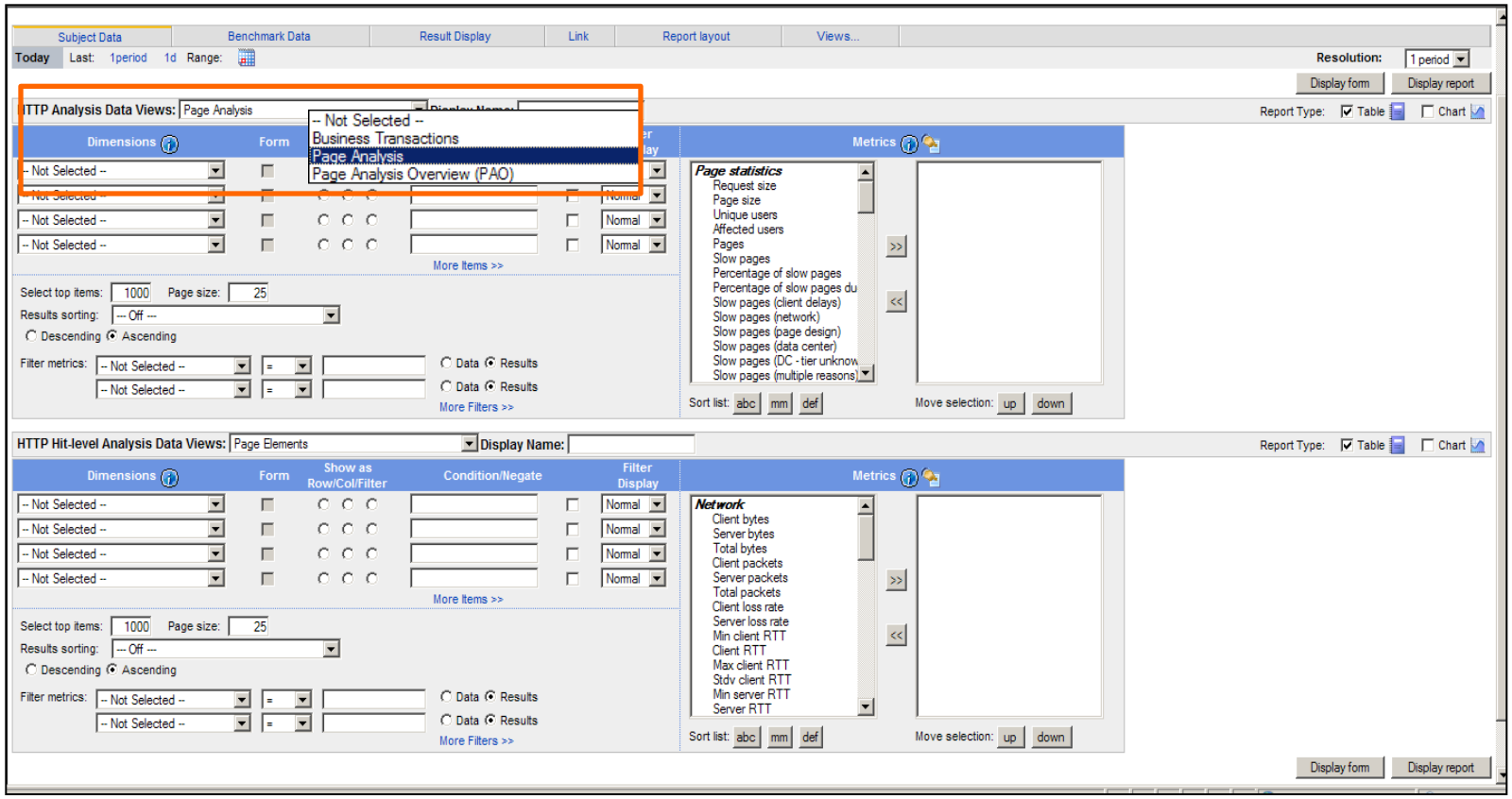
- Advanced Web Diagnostics Server
  - The AWDS has data views that are specific to the Page Element Processing and contain special report dimensions and metrics.



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ClientVantage Agentless Monitoring

- There is an important difference between sections and data views:
  - Data views are sets of dimensions and metrics—maintained internally by DMI—and related to specific issues or topics.
  - Data views have names, but there is only one data view of each name.
  - You cannot create or delete data views though you can use a particular data view in more than one section.
- Sections are entry forms on which you specify your report conditions.
  - Sections are created for the purpose of generating particular reports.
  - Every time you select DMI on the menu, you are presented with a fresh, empty section on which you need to specify all your report definition settings, including the data view name.

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ClientVantage Agentless Monitoring

- You may display more than one section on a single DMI screen.
- The displayed sections are not bound by any dependency constraints.
  - For example, the sections you display may, but do not have to, belong to the same applications.
  - Note that this allows you to produce reports containing data from a number of different applications.
- You may also display more than one section for a single data view, that is, you can select the same data view in a number of sections displayed on one DMI screen.

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ClientVantage Agentless Monitoring

- Data for a particular data view can come from databases used by other report servers, provided that these remote servers have been configured.
- The way to specify the source of data for a particular data view, is to select it in the **Data Sources** drop-down list.
  - This list will only be available, if there are different data sources to choose form.
  - When no remote servers with same view are configured, the **Data Sources** drop-down list is not available.

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- Data Source options:
  - **All (Aggregated)**
    - Aggregate data from all the available databases supporting this view.
    - When remote servers are configured and support this view, the relevant data from these servers will be aggregated.
  - **All (Reported separately)**
    - Data from all data sources are reported in separate tables or on separate charts.
  - **-servers-**
    - All available servers are listed.
    - The list includes **localhost**.
    - Note that if no remote servers are available, no servers will be listed at all, thus the entry **localhost** will not be shown.

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- Selecting Dimensions
  - Each data view allows you to select a dimension from the **Dimensions** drop-down list.
  - The dimension is the key that will be used to find the report data in the database.
    - For example, it can be **Host Name** or **Server IP**.
- Selecting Table Orientation
  - If the dimension is to be shown on the report, you can choose between row (**Row**) and column (**Col**) orientation by selecting the appropriate **Show** radio button.

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- Pre-filtering per Dimension
  - If you select the **Show as: Filter** radio button, the given dimension is not shown on the report but it affects the data on the report, in that it filters the result of the report definition using the specified dimension and any expression given in the **Condition** field.
- Specifying a Condition
  - You can specify a particular group of values by supplying a condition in the **Condition** entry box.
    - The condition can contain the exact value of the dimension or a partial value with a wildcard character (*).
    - Complex conditions containing special characters and spaces must be embraced with quotation marks ("").
    - For example, a dimension can be an IP address or part of an IP address, such as: 10.123.1*

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- Selecting Metrics
  - Specifying dimensions only would generate a report showing all the recorded instances of the specified dimensions.
  - To show actual metrics for the selected dimensions, you must choose the metrics in the metrics section, on the right-hand side of the screen.

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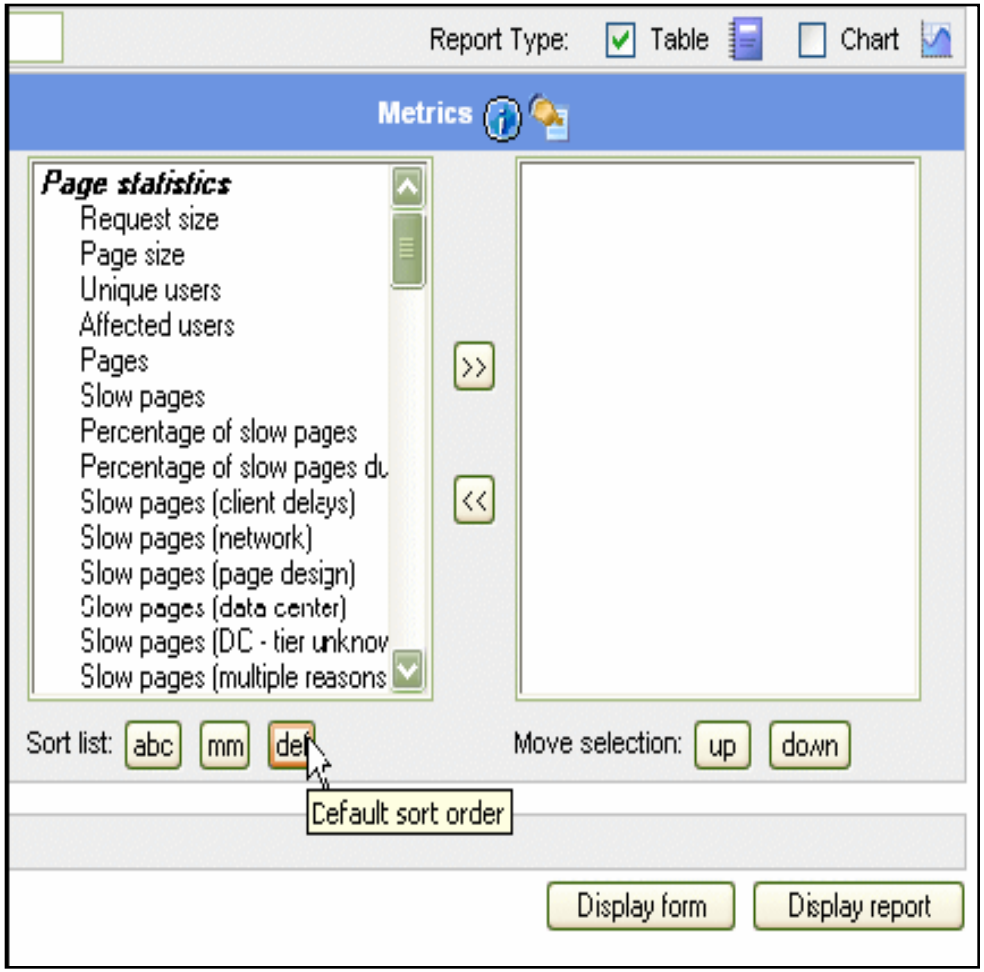
- **Metric**
  - A metric is a measurement taken for a particular entity at a particular time or for a particular period of time.
  - Each metric has a unique name.
    - For example, the total count of bytes transferred by specific clients during a given length of time is referred to as "Client Bytes".



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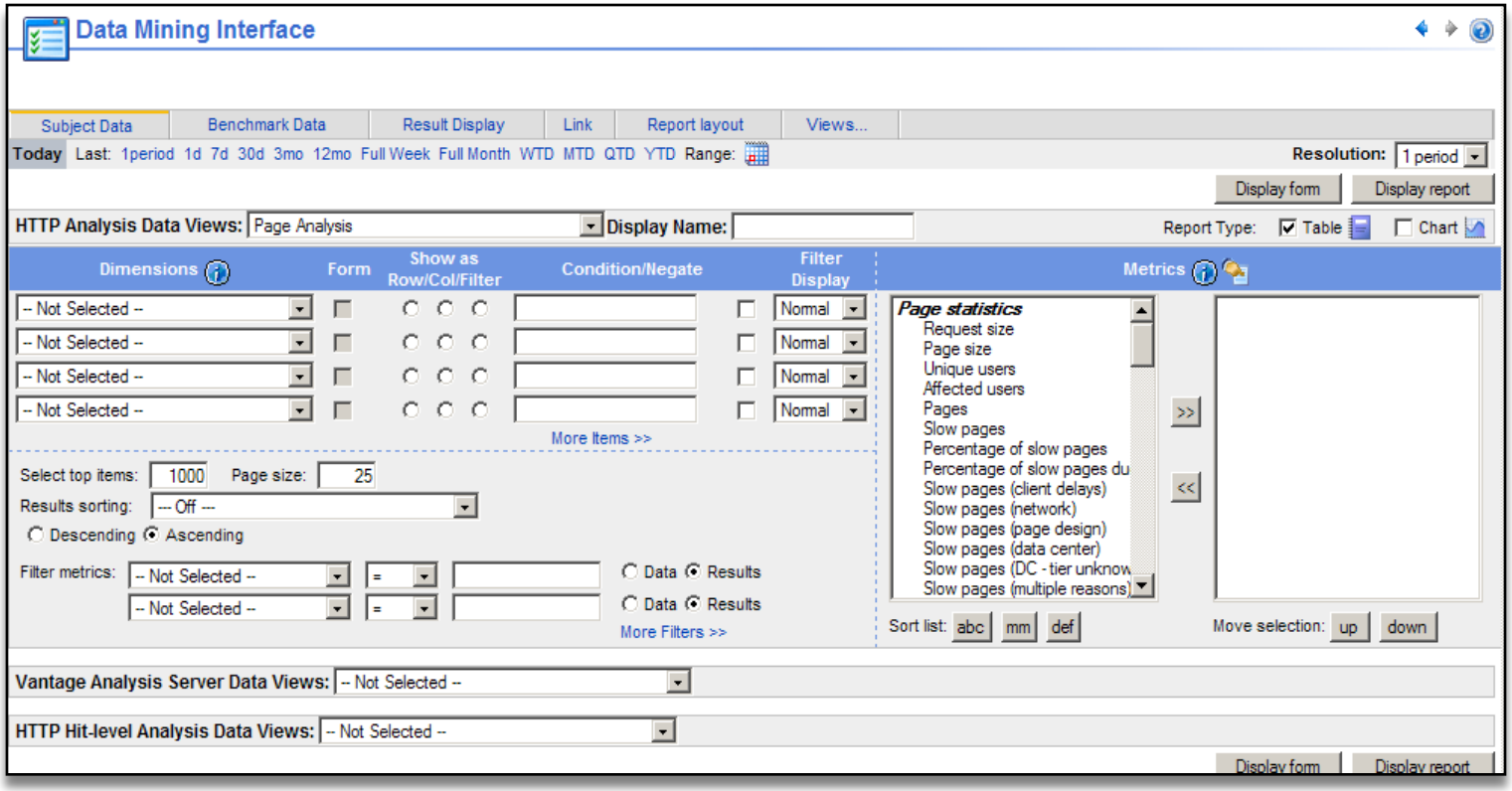
LAB – Create a DMI Report

- In this Lab you will create a DMI report
  - Click the Report menu and select Data Mining



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LAB – Create a DMI Report

1. Un/Select the Data Views that you want to show in the report
2. Select whether or not you want the data within the Data View to be shown as a table, chart, or both
3. Select the Dimension(s) you want shown on the report
4. Define any Filtering applied to the Dimension(s)
5. Select the Metric(s) you want reported on the report
6. Define any Filtering applied to the Metric(s)
7. Select the Data Range and Resolution
8. Enter a name to describe or title the report
9. Select Display report
10. Refine report (repeat steps 1-9 as necessary)
11. Save report to the Dashboard

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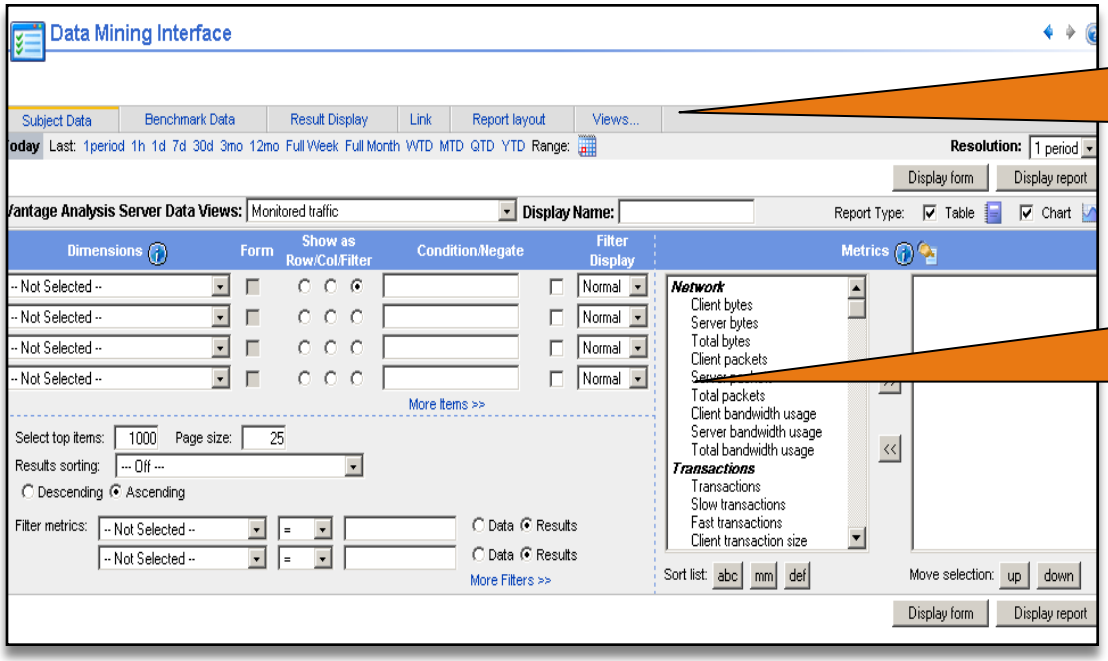
LAB – Create a DMI Report

- The DMI interface allows you to create many reports with detailed data represented in the desired format.
  - These reports can be linked together to create a drill down mechanism between reports passing desired information from one report to the next.



Options used to select data, link reports, and specify report layout

Available VAS Data Views are selected using this drop down window

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LAB – Create a DMI Report

- Step 1 : Un/Select Data Views
  - When first entering the DMI from the menu Report -> Data Mining, the user will be presented with default open Data Views.
  - To Add or Remove Data Views, left mouse click on the Views… tab from the DMI GUI. This will bring up the Data View pop-up shown in Figure 1.
  - Figure 2 illustrates the DMI without any Data Views selected. HTTP Data Views are available when an AWDS server is configured.

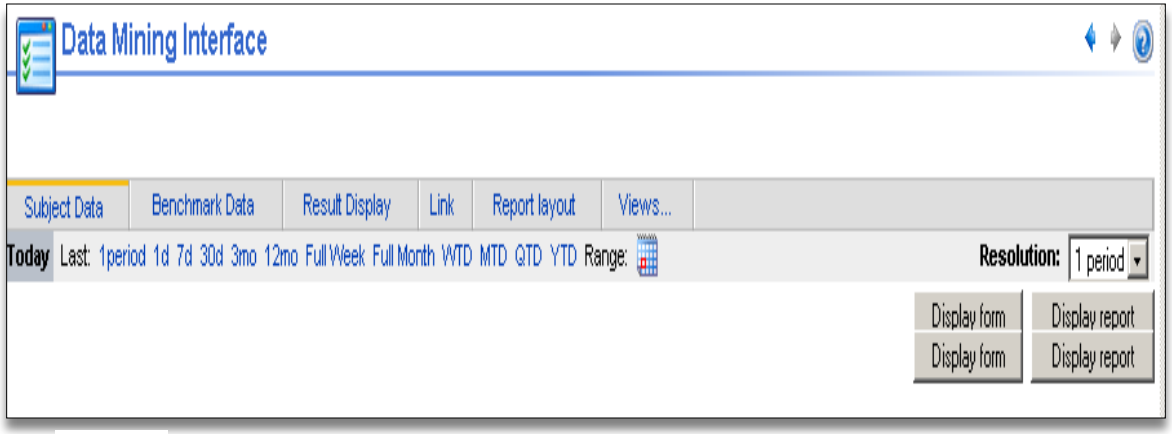

Fig. 2

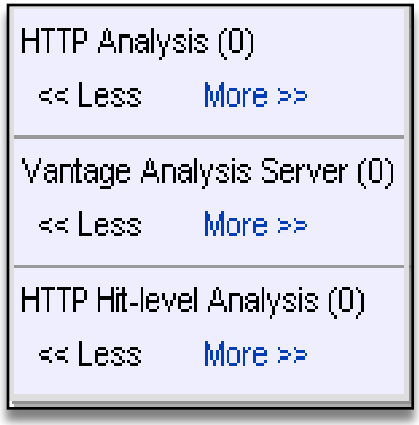

Fig. 1

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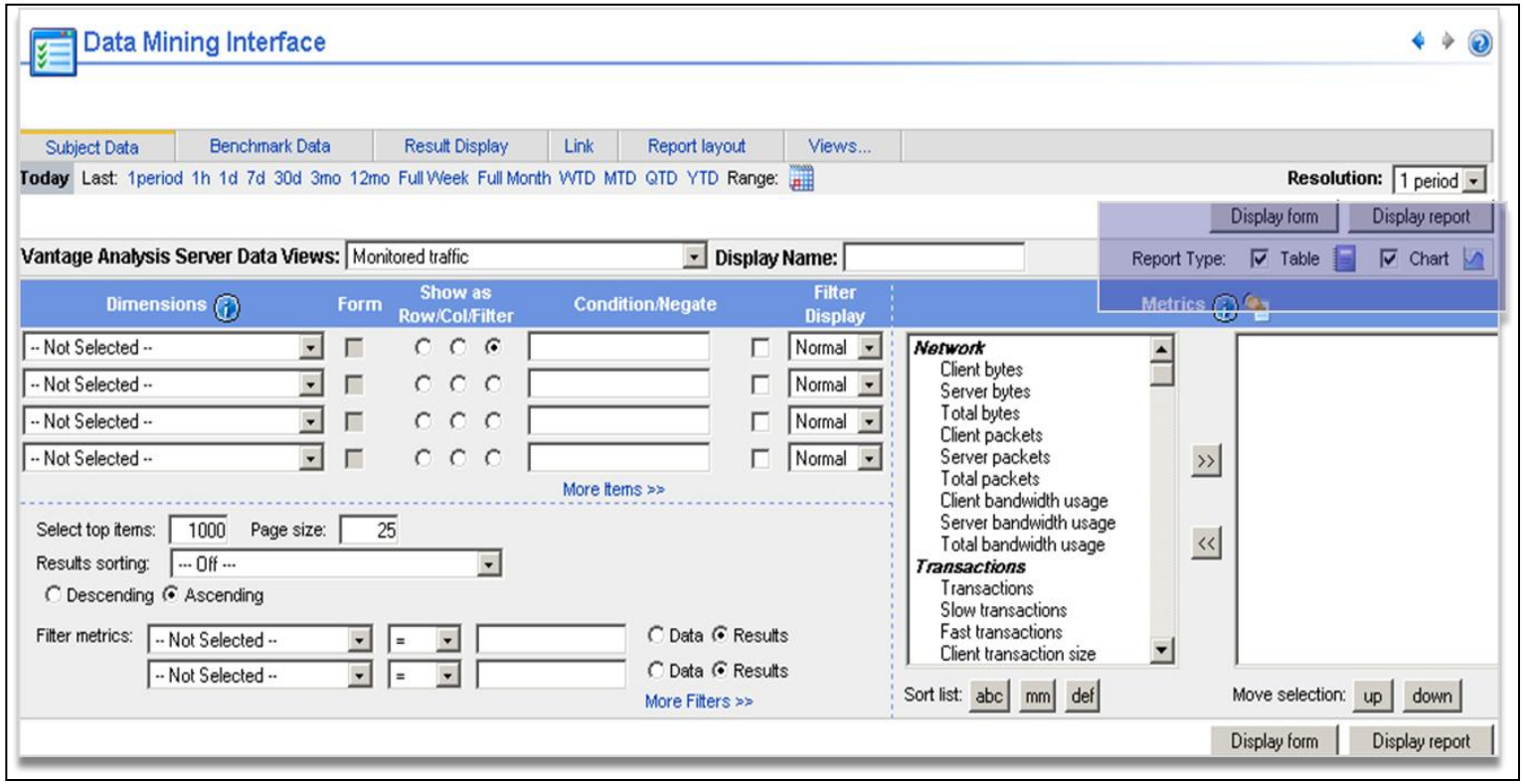
LAB – Create a DMI Report

- Step 2 : Select Table or Chart
  - Choose how you want the data displayed by selecting the appropriate check option(s) highlighted below:



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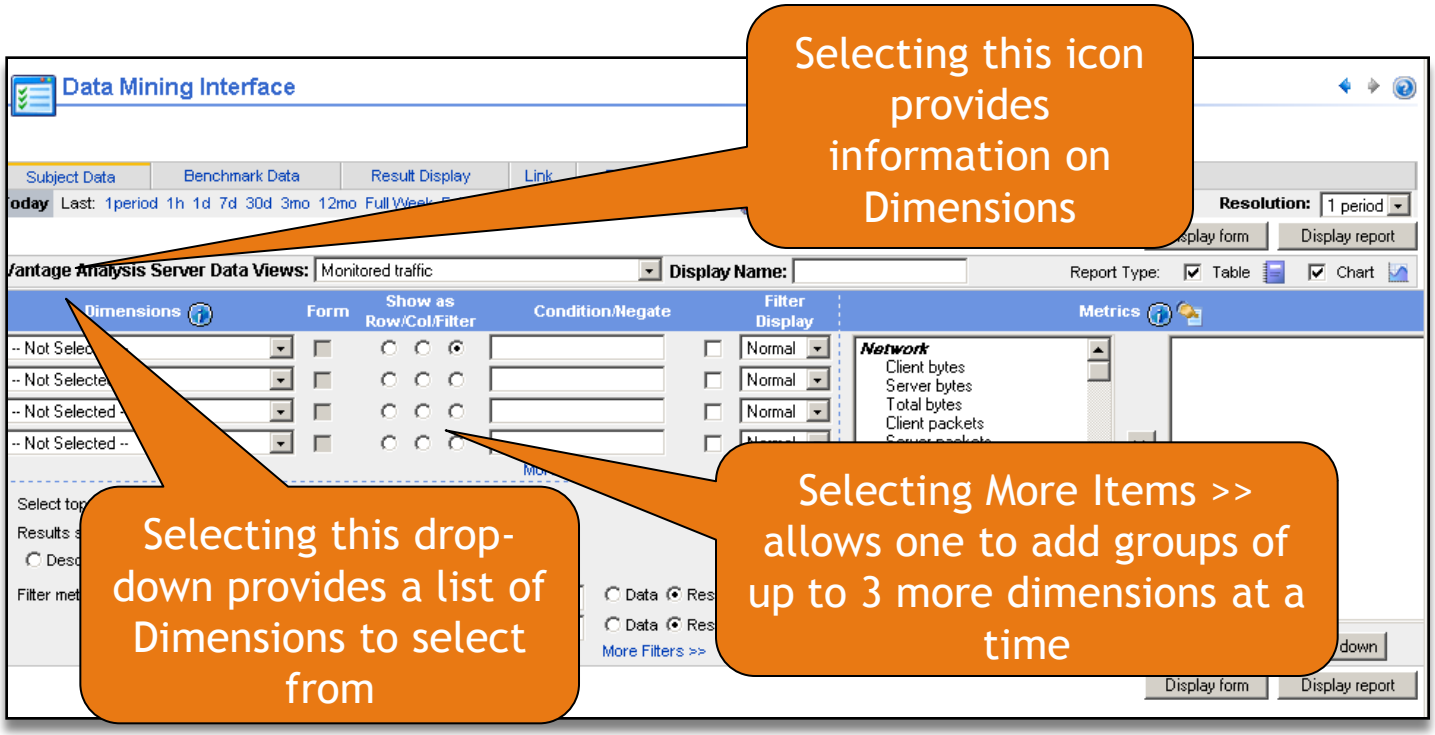
LAB – Create a DMI Report

- Step 3 : Select the appropriate Dimension(s)
  - Choose the terms or descriptions of the measurements.
  - Think of Dimensions as answers to: from Where, to Whom, What are they requesting, and When.



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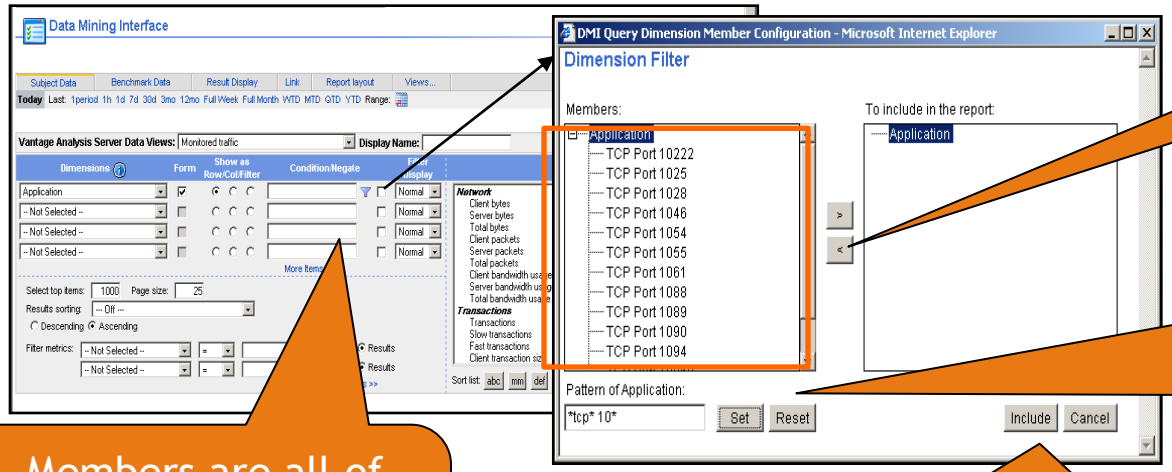
LAB – Create a DMI Report

- Step 4 : Define any Filtering for Dimension(s)
  - Narrow the returned information by defining Filters per each Dimension as appropriate.
  - Select the filter icon illustrated below to bring up the Dimension Filter User Interface.



Use arrows to include Members to be used as filters

Patterns can be used as wildcards to find Members to filter on. Enter pattern and then select Set button

Members are all of the recorded values seen for the targeted Dimension

Select Include button to commit filter

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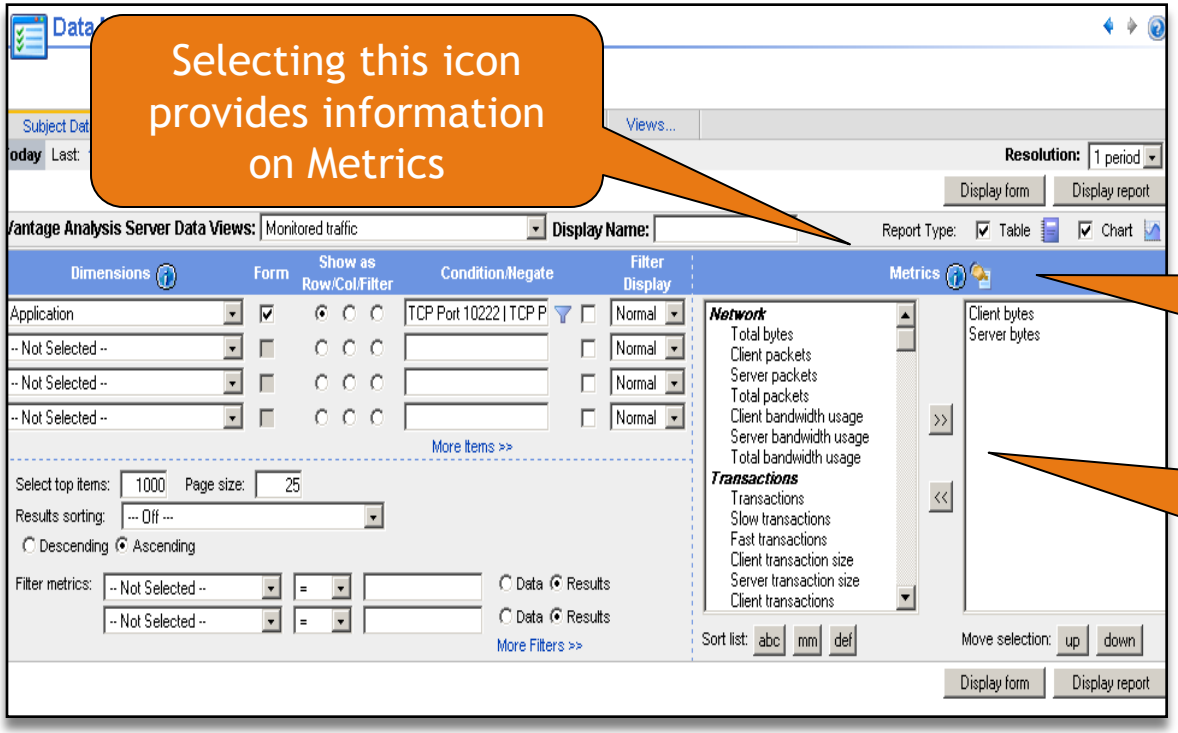
LAB – Create a DMI Report

- Step 5 : Select appropriate Metric(s)
  - Choose the measurements you want displayed for the targeted Data View.



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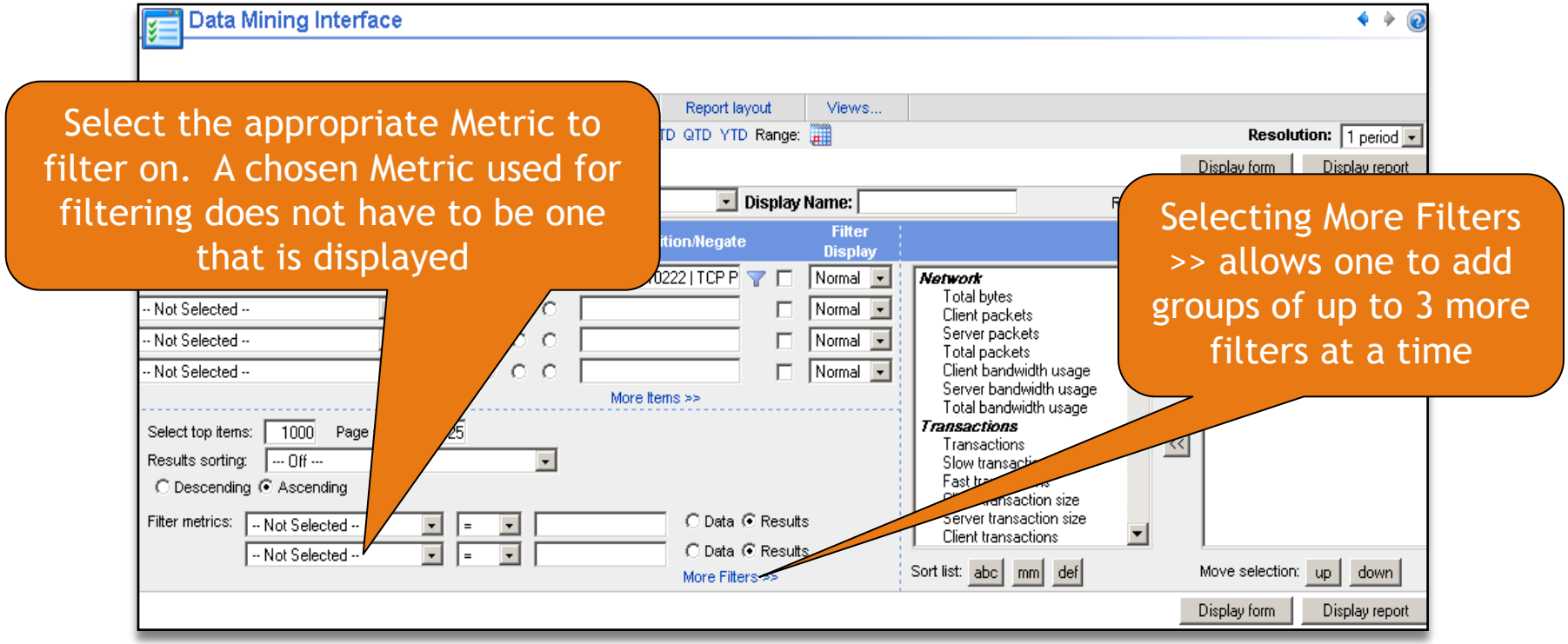
LAB – Create a DMI Report

- Step 6 : Define any Filtering for Metric(s)
  - One can narrow the returned information by defining Filters per each Metric as appropriate.



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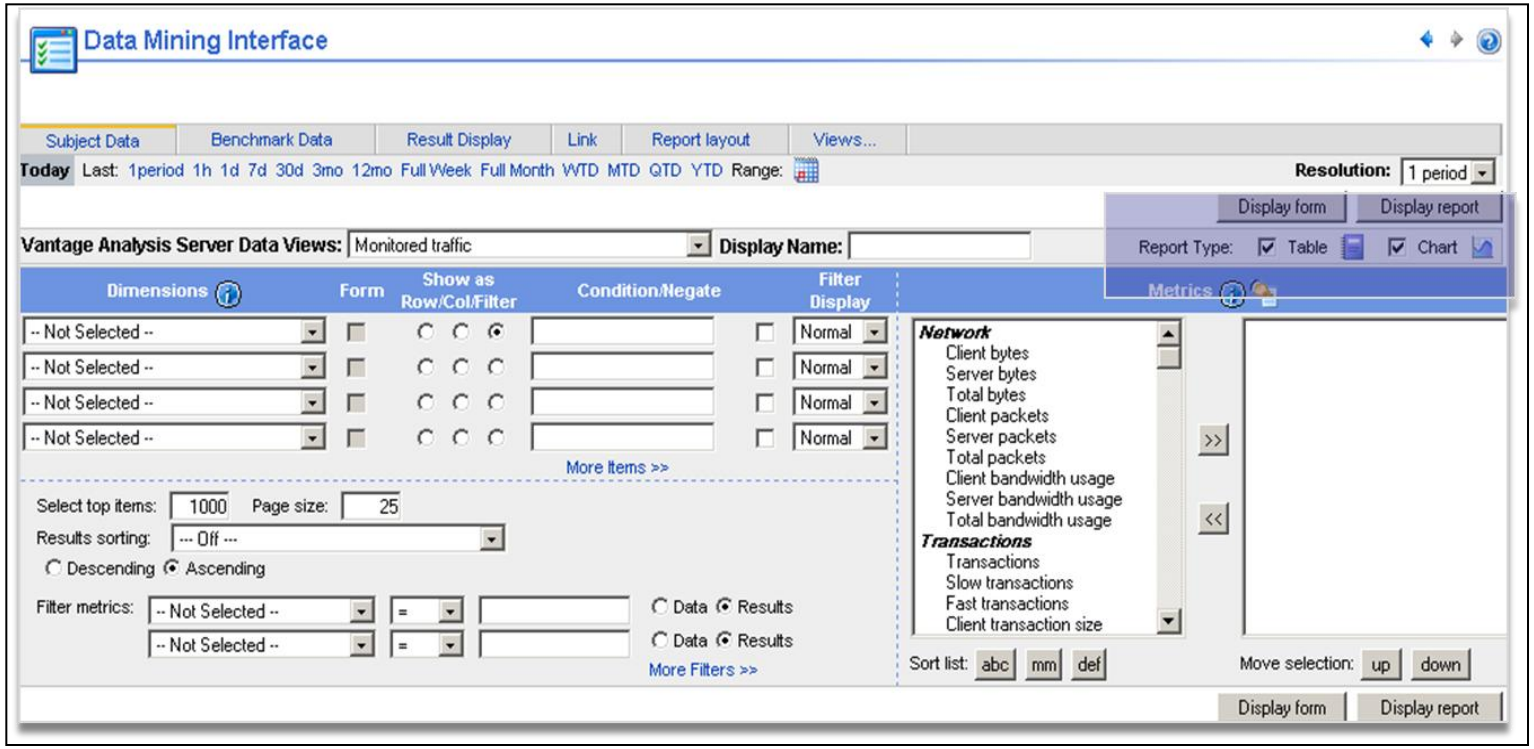
LAB – Create a DMI Report

- Step 7 : Select Data Range and Resolution
  - Choose how you want the data displayed by selecting the appropriate check option(s) highlighted below:



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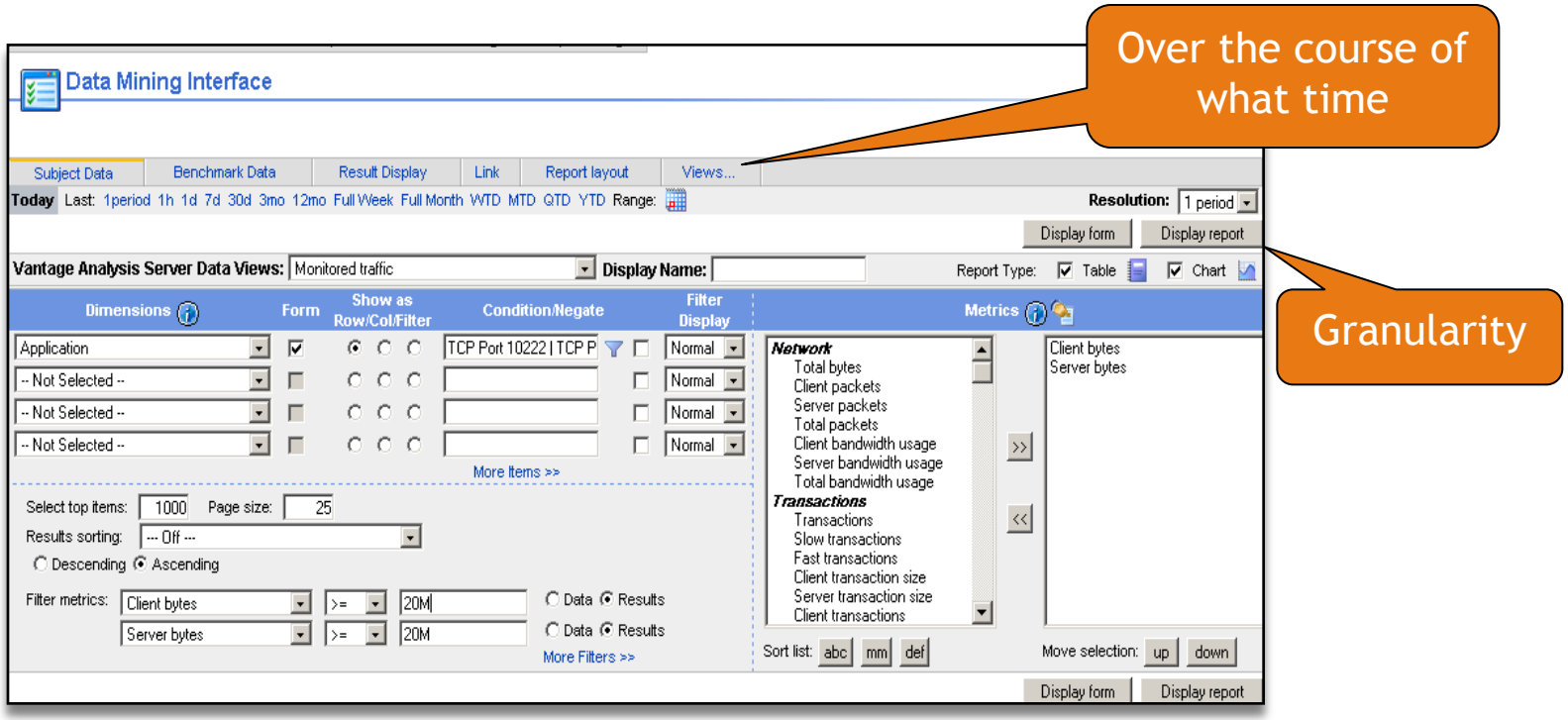
LAB – Create a DMI Report

- Step 7 : Select Data Range and Resolution
  - There are two areas to tune how refined the data is presented
    - Data Range – determines how long a time period to select.
    - Data Resolution – Determines how many of the selected time periods to display.



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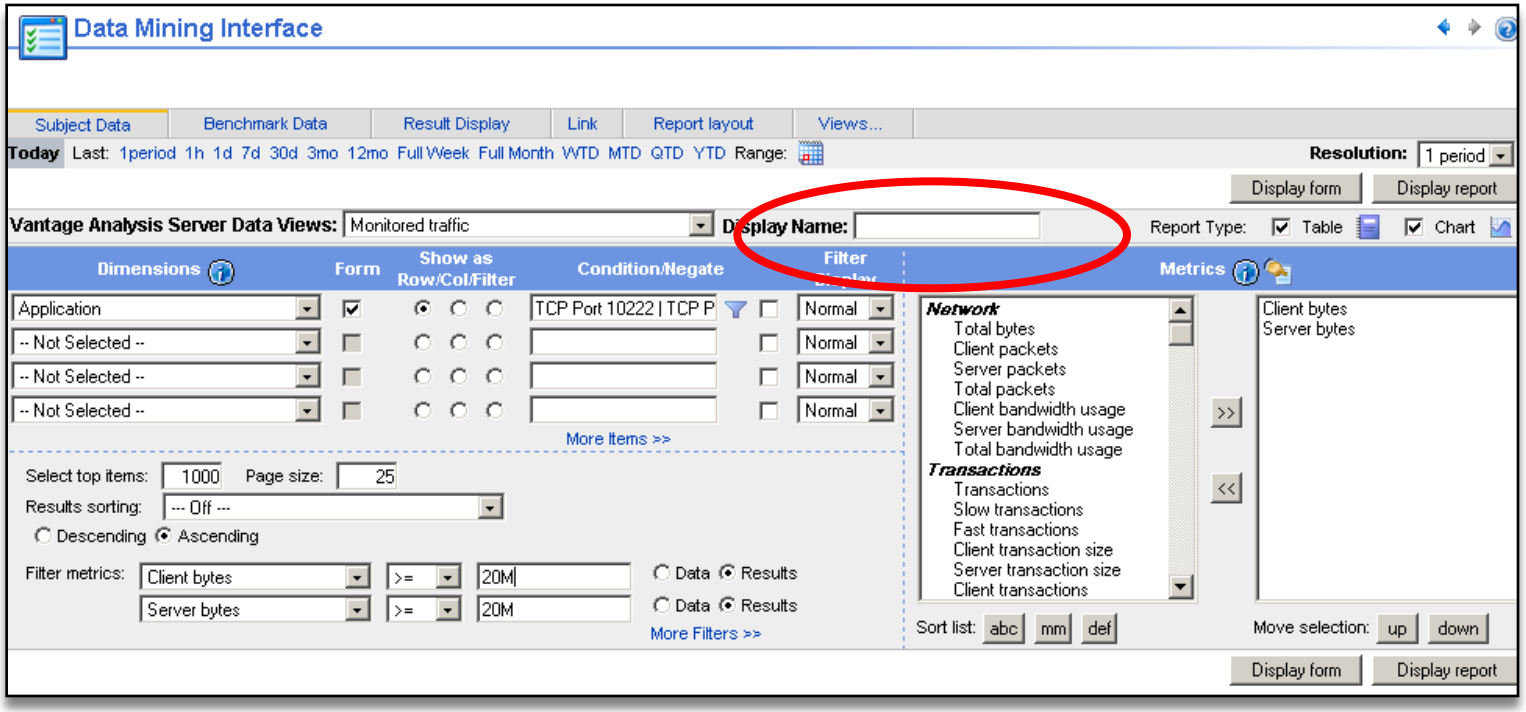
LAB – Create a DMI Report

- Step 8 : Apply a Title for the report
  - Apply a display name for the report.



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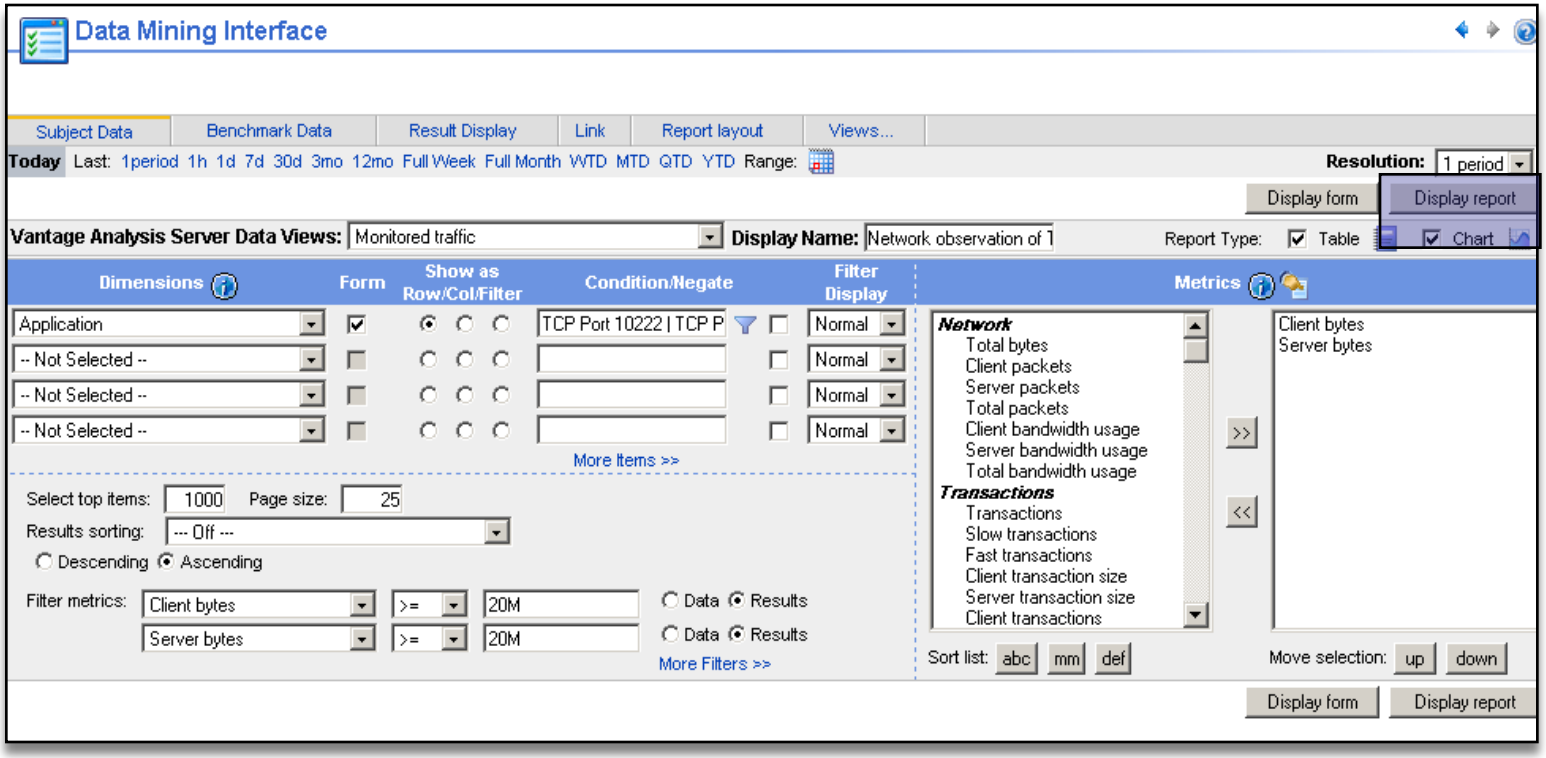
LAB – Create a DMI Report

- Step 9 : Select *Display report*
  - To commit the DMI query and produce the resulting report, select the Display report button.



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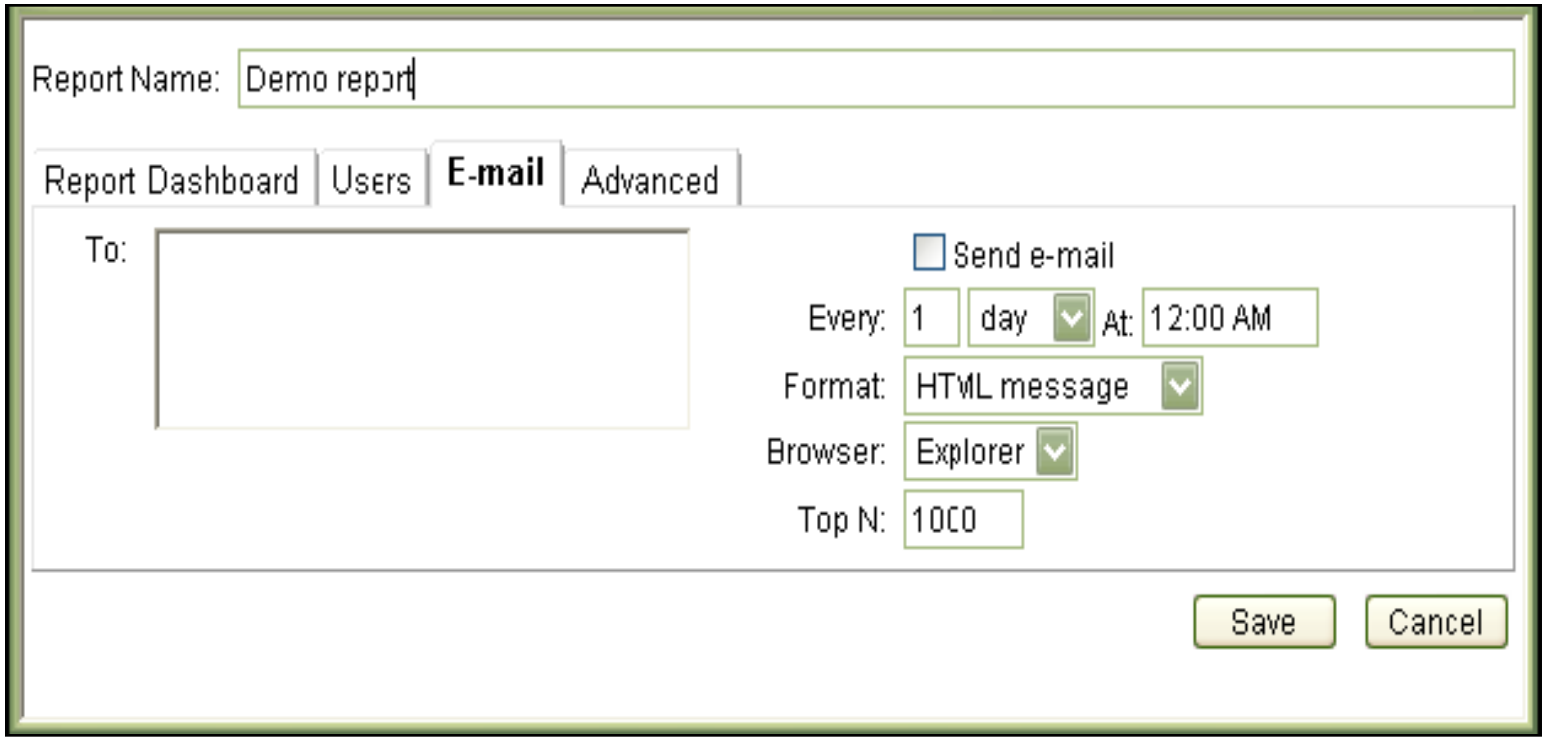
LAB – Create a DMI Report

- Step 10 : Set up Email for a report
  - E-mailing instructions for a report can be set up using the e-mail tab of the Save Report window.



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LAB – Create a DMI Report

- Step 11 : Email the currently displayed report
  - To send a one-of copy of the currently displayed report, select Report – Send by E-mail.

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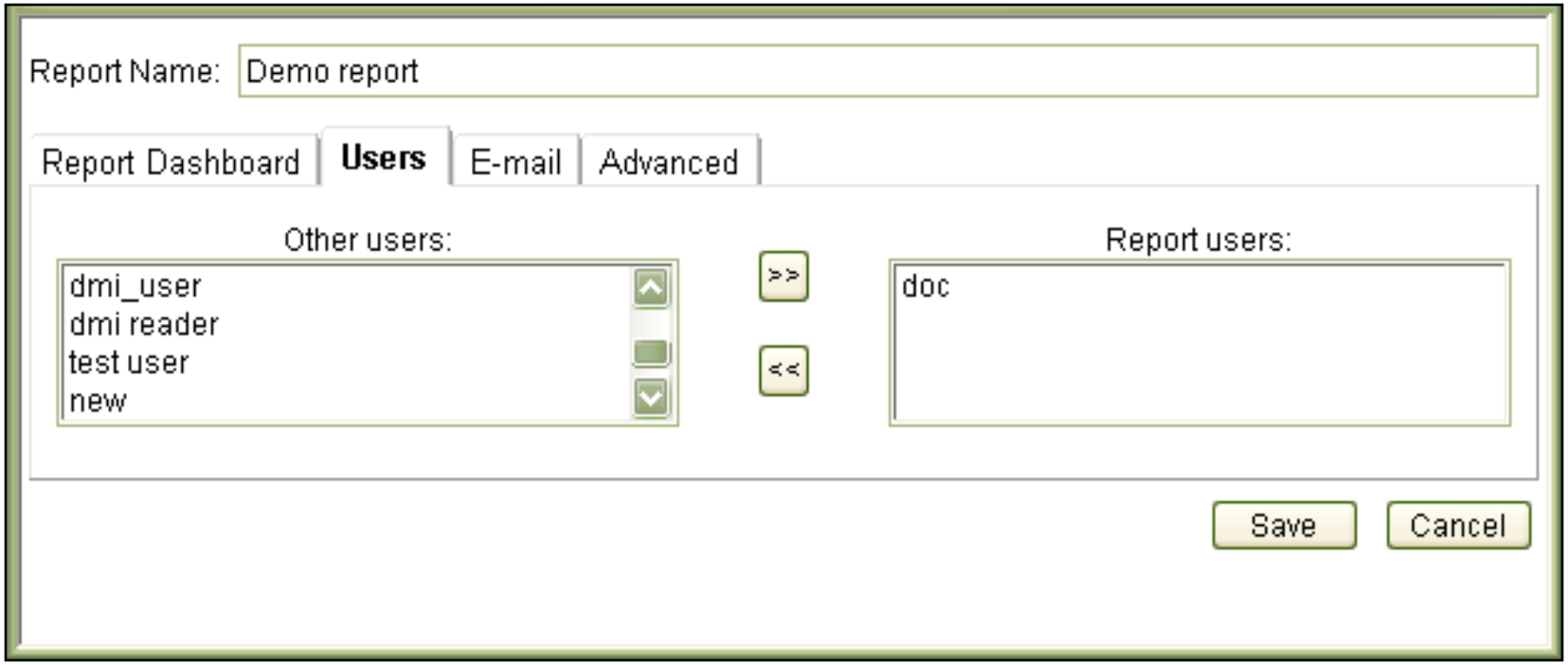
LAB – Create a DMI Report

- Step 12 : Assign users to a report
  - The Users tab allows you to specify those users that will be allowed access to the report.
    - By default, this right is given to the report creator.



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LAB – Create a DMI Report

- When finished, the report will list out the selected data.

7/3/06 12:00:00 AM - 8/2/06 12:00:00 AM Find: in Analyzer Find

Analyzer	Availability	Client bytes	Server bytes	Total bytes	Client bandwidth usage	Server bandwidth usage	Total bandwidth usage
Generic (with transactions)	99.7%	231 GB	895 GB	1.1 TB	1.43 Mbps	5.56 Mbps	6.99 Mbps
HTTP	99.9%	733 GB	5.24 TB	5.96 TB	4.55 Mbps	33.4 Mbps	37.9 Mbps
ICMP	N/A	12.4 GB	0 B	12.4 GB	77.1 kbps	0 bps	77.1 kbps
IP	N/A	15.3 GB	0 B	15.3 GB	95.2 kbps	0 bps	95.2 kbps
SSL	99.6%	10.9 GB	43.1 GB	54 GB	68 kbps	268 kbps	336 kbps
SSL Decrypted	99.9%	2.68 GB	14.3 GB	17 GB	16.7 kbps	88.9 kbps	106 kbps
TCP	88.4%	245 GB	780 GB	1 TB	1.52 Mbps	4.85 Mbps	6.37 Mbps
TDS	100%	741 GB	461 GB	1.17 TB	4.6 Mbps	2.86 Mbps	7.47 Mbps
UDP	N/A	7.89 GB	17.1 GB	25 GB	49 kbps	106 kbps	155 kbps

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SAMPLE REPORTING GROUPS – ONLINE DEMO

- Billing RG| Claims Processing RG| Document Viewer RG| Employee Intranet RG| Enterprise Content Management RG| Live Quote RG| Point of Sale - Agents RG| Point of Sale - Direct RG| Point of Sale - Intranet RG| Policy Issuance RG| Underwriting RG

A SIMPLE DMI REPORT

Data Mining Interface

Time range: Friday, 4/17/09 (Today) << 4/17/09 00:00 - 4/18/09 00:00 >> Resolution: 1 period

Refresh Refine

Transaction Impact

Report Type: ☑ Table ☐ Chart

4/17/09 00:00:00 - 4/18/09 00:00:00 Find: in Reporting group Find

Reporting group	Client bandwidth usage	Server bandwidth usage	Total bandwidth usage	Client loss rate	Server loss rate	Client RTT	Server RTT	End-to-end RTT
Enterprise Content Management RG	152 bps	5.21 kbps	5.36 kbps	0%	0%	0.9ms	40ms	41ms
Document Viewer RG	1.81 kbps	12 kbps	13.8 kbps	<0.01%	0.02%	0.5ms	40ms	41ms
Underwriting RG	3.1 kbps	5.44 kbps	8.54 kbps	0.01%	0.21%	2ms	39ms	41ms
Point of Sale - Intranet RG	2.52 kbps	58.2 kbps	60.7 kbps	0.04%	0.41%	79ms	0.2ms	79ms
Employee Intranet RG	10.6 kbps	36.8 kbps	47.4 kbps	0.05%	1.03%	2ms	40ms	42ms
Policy Issuance RG	55.1 kbps	95.7 kbps	151 kbps	0.17%	0.01%	0.7ms	40ms	41ms
Billing RG	32.3 kbps	207 kbps	239 kbps	0.21%	1.01%	0.9ms	54ms	55ms

User: india@FTS-VM10:80 (en) Report generated: 7/13/10 11:54 EDT Version: Vantage Analysis Server 11.1.0.219

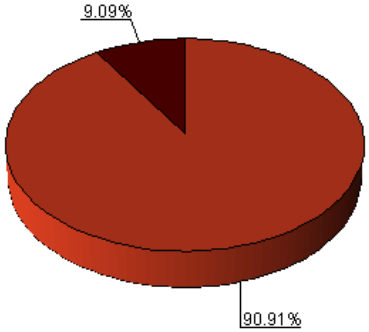
DMI REPORT 1

User Frustation Report

Report Type: Table Chart

Percentage of slow operations
Percentage of aborts

Click legend to configure chart



4/17/09 00:00:00 - 4/18/09 00:00:00 Find: in Percentage of slow operations Find

Percentage of slow operations	Percentage of aborts	Percentage of network time
2.12%	0.21%	81.53%

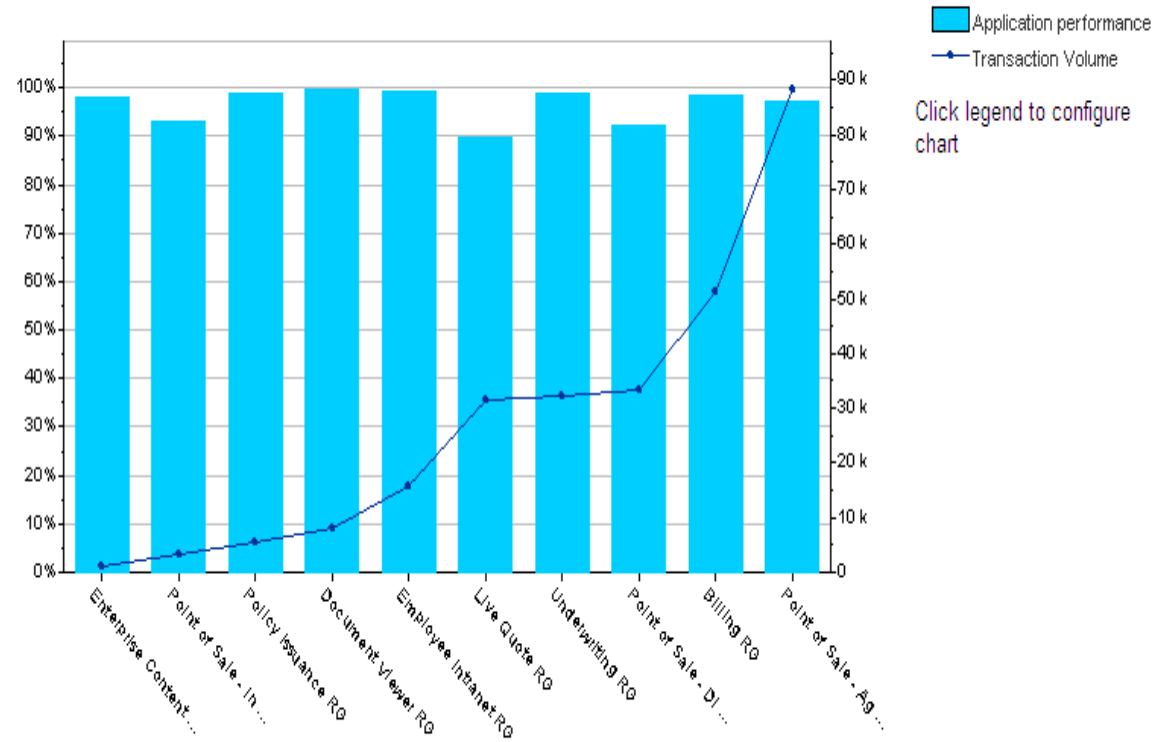
DMI REPORT 2

Time range: Friday, 4/17/09 (Today) << 4/17/09 00:00 - 4/18/09 00:00 >> Resolution: 6 hours

Refresh Refine

Transaction Impact

Report Type: Table Chart



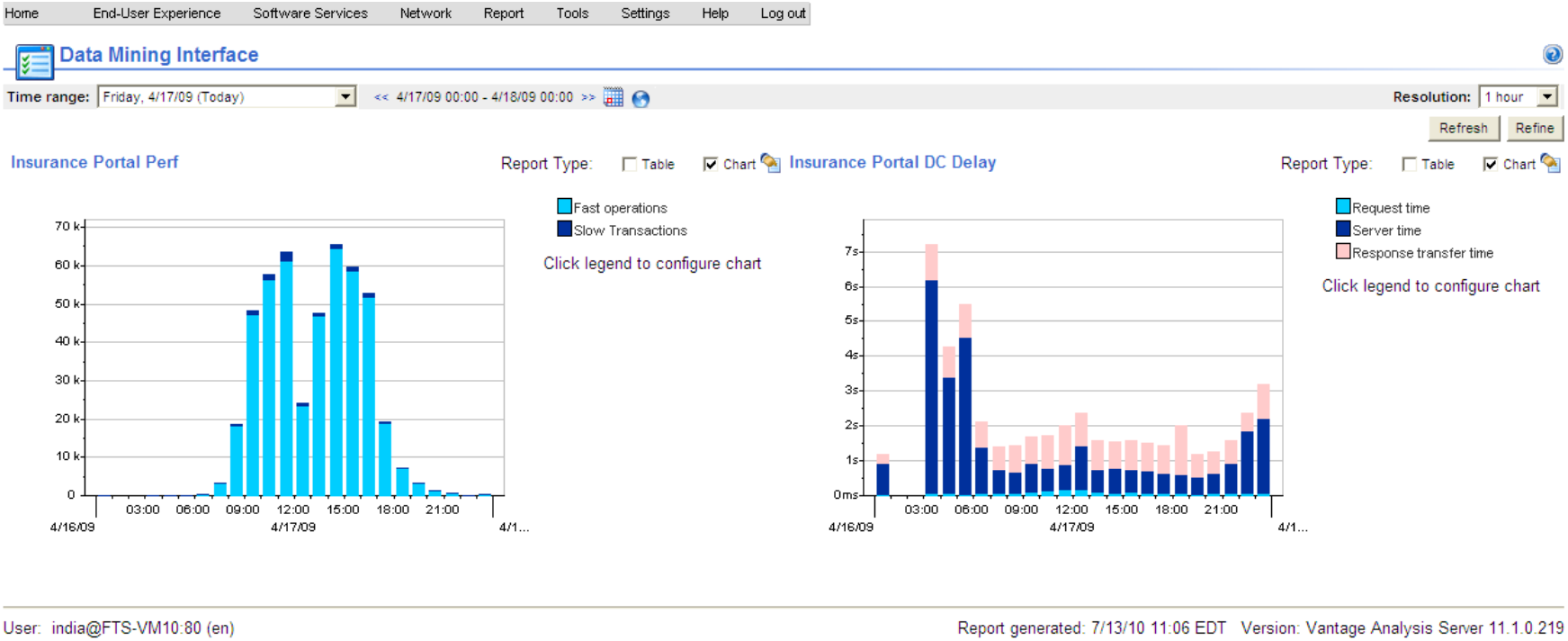
4/17/09 00:00:00 - 4/18/09 00:00:00 Find: in Reporting group Find

Reporting group	Application performance	Transaction Volume

DMI REPORT 3

- CHECK IN THE PDF

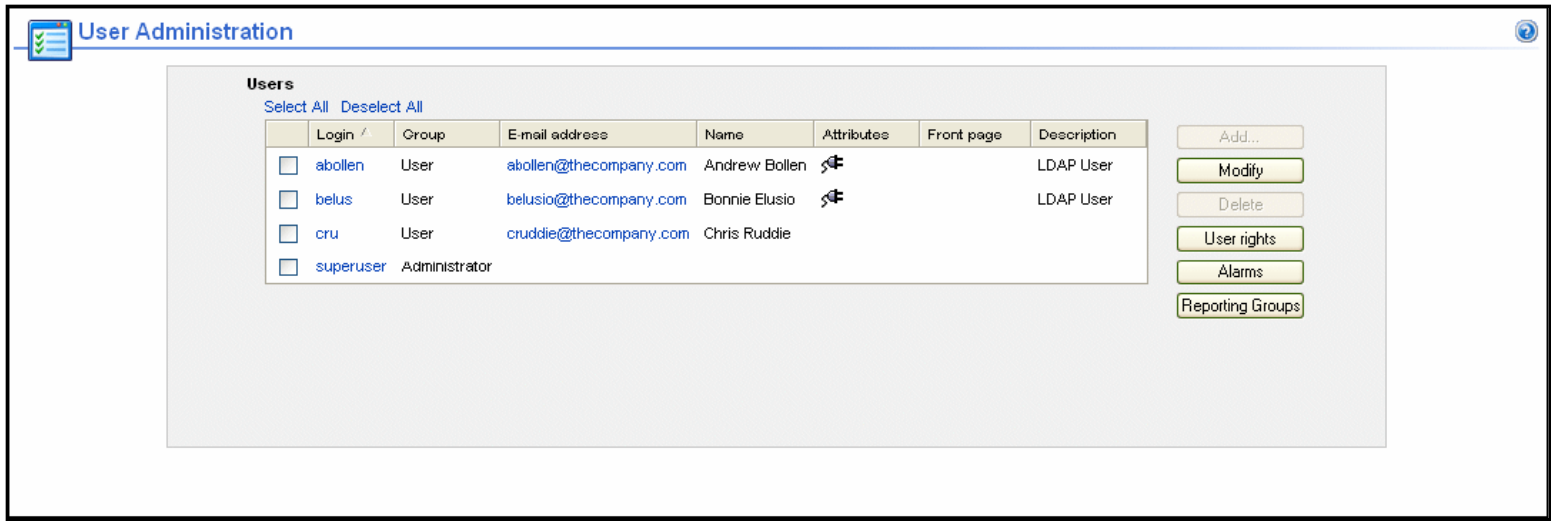
DMI REPORT 4


Home
End-User Experience
Software Services
Network
Report
Tools
Settings
Help
Log out
Data Mining Interface
Time range: Friday, 4/17/09 (Today)
<< 4/17/09 00:00 - 4/18/09 00:00 >>
Resolution: 1 hour
Refresh
Refine
Insurance Portal Perf
Report Type: Table Chart
Fast operations
Slow Transactions
Click legend to configure chart
70 k
60 k
50 k
40 k
30 k
20 k
10 k
0
03:00 06:00 09:00 12:00 15:00 18:00 21:00
4/16/09
4/17/09
4/1...
Insurance Portal DC Delay
Report Type: Table Chart
Request time
Server time
Response transfer time
Click legend to configure chart
7s
6s
5s
4s
3s
2s
1s
0ms
03:00 06:00 09:00 12:00 15:00 18:00 21:00
4/16/09
4/17/09
4/1...
User: india@FTS-VM10:80 (en)
Report generated: 7/13/10 11:06 EDT Version: Vantage Analysis Server 11.1.0.219

Security

ClientVantage Agentless Monitoring

- In any new installation, the only user account present is the *superuser* account.
- This is a special account to be used for administration purposes only.
- It is strongly recommended that other user accounts be defined for normal daily use of the product.
- The list of users and their privileges is displayed upon clicking on **Settings** → **Security** →**Users**.



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Each user can be assigned to a group that gives them special privileges.

- **Custom_Report_User**
  - Custom_Report_User is not allowed to view all the canned reports, but has access only to the Data Mining Reports and Customized VAS reports that are assigned to them.
- **User**
  - Plain users who are permitted to browse canned reports but cannot perform administrative and configuration functions.
  - They can, however, save customized reports (VAS only).
  - As far as DMI reports are concerned, users belonging to this group can only see the reports that are assigned to them but cannot modify any reports or define new ones.

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- **DMI-Reader**
  - Plain users, with rights as for the **Users** group, with the additional privileges to use DMI to browse through data, that is, to define and execute reports, though without the right to save new DMI reports to Dashboard or assign user rights to reports.
- **DMI-User**
  - Plain users, with rights as for the **DMI-Reader** group, with the additional privileges to use all of the features of DMI. Users belonging to this group can define and save their own reports and modify any existing DMI reports.
- **Administrator**
  - Users with administrative privileges: in addition to browsing reports, these users can manage user accounts and modify operational settings and parameters.

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ClientVantage Agentless Monitoring

- Each user can be assigned to attributes.
  - The attributes define if the user is an LDAP user or a use with persistent login:
    - The plug icon indicates an LDAP user, that is a user defined through an LDAP server.
    - The person icon indicates users with persistent login, that is users who do not have to log on between sessions.
- Each user is assigned a frontpage
  - This is the URL of the page that the user will see after successfully logging into the report server.
  - This page is also displayed upon clicking on the Home link, on the left-hand side of the menu bar, at any time during a user session.

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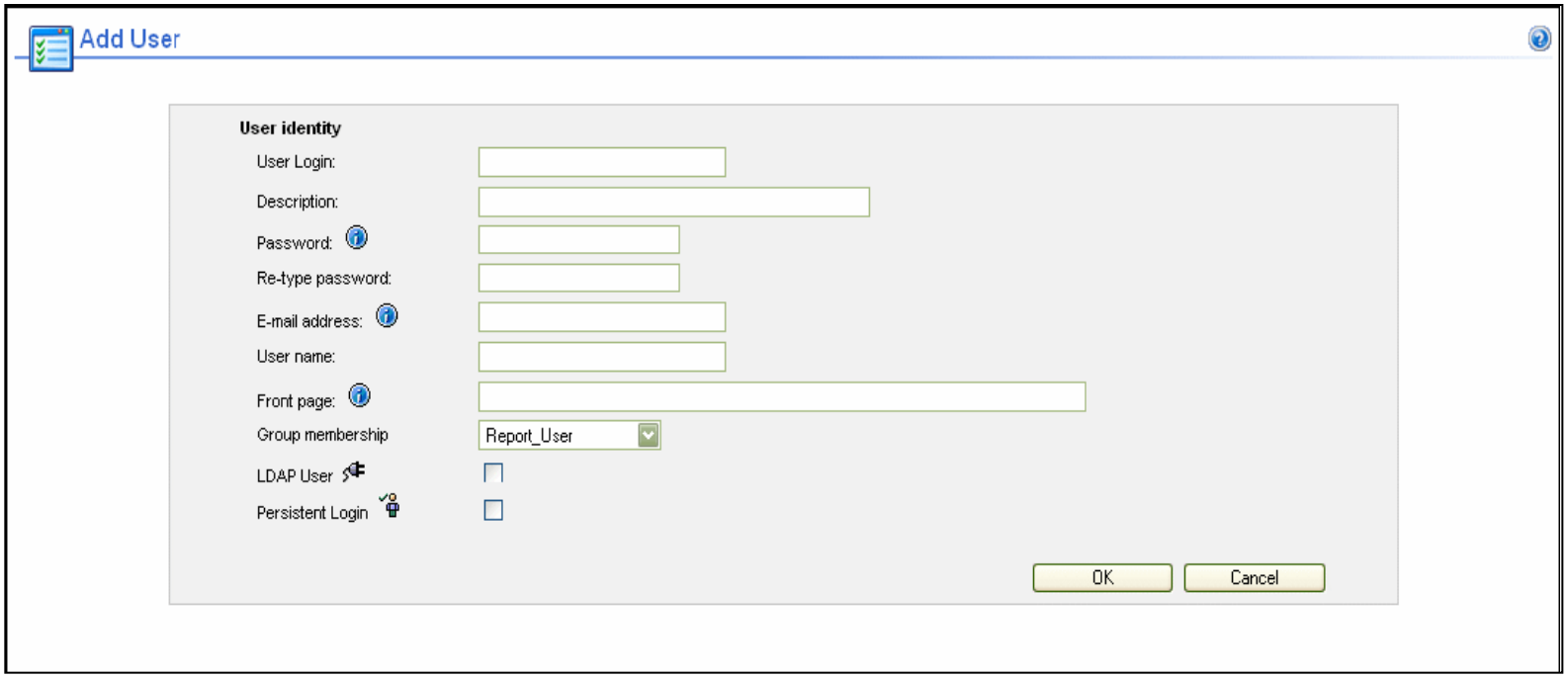
LAB – Configuring User Accounts

- In this lab, you will configure a user account
- Click on Settings → Security → Users
- To add a new user, click on the **Add** button
- This opens a new window allowing you to define a new user account, and all the user information (get this information from the instructor)



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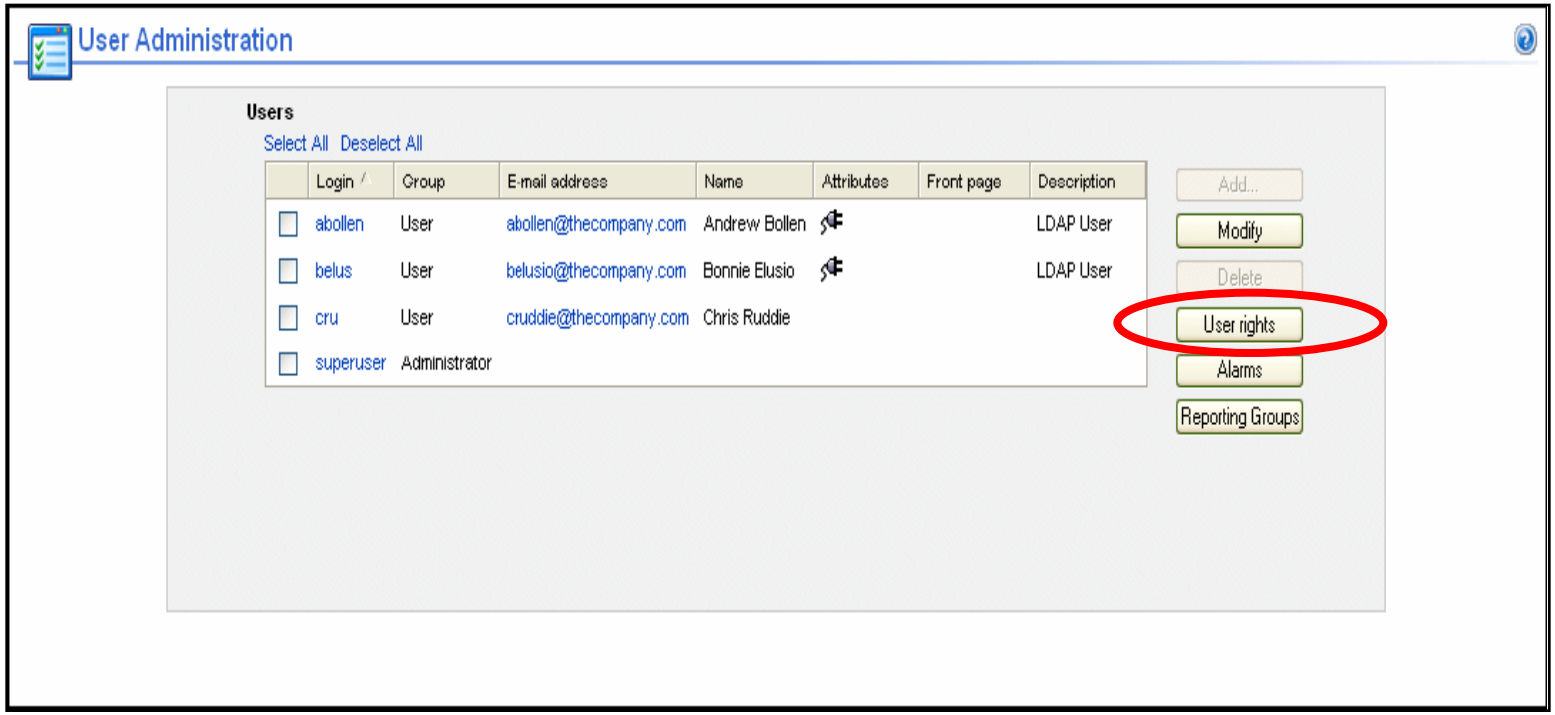
LAB – Configuring User Accounts

– To assign reports to a user, Select the user you would like to assign the reports for and then Click User rights on the main user admin window.



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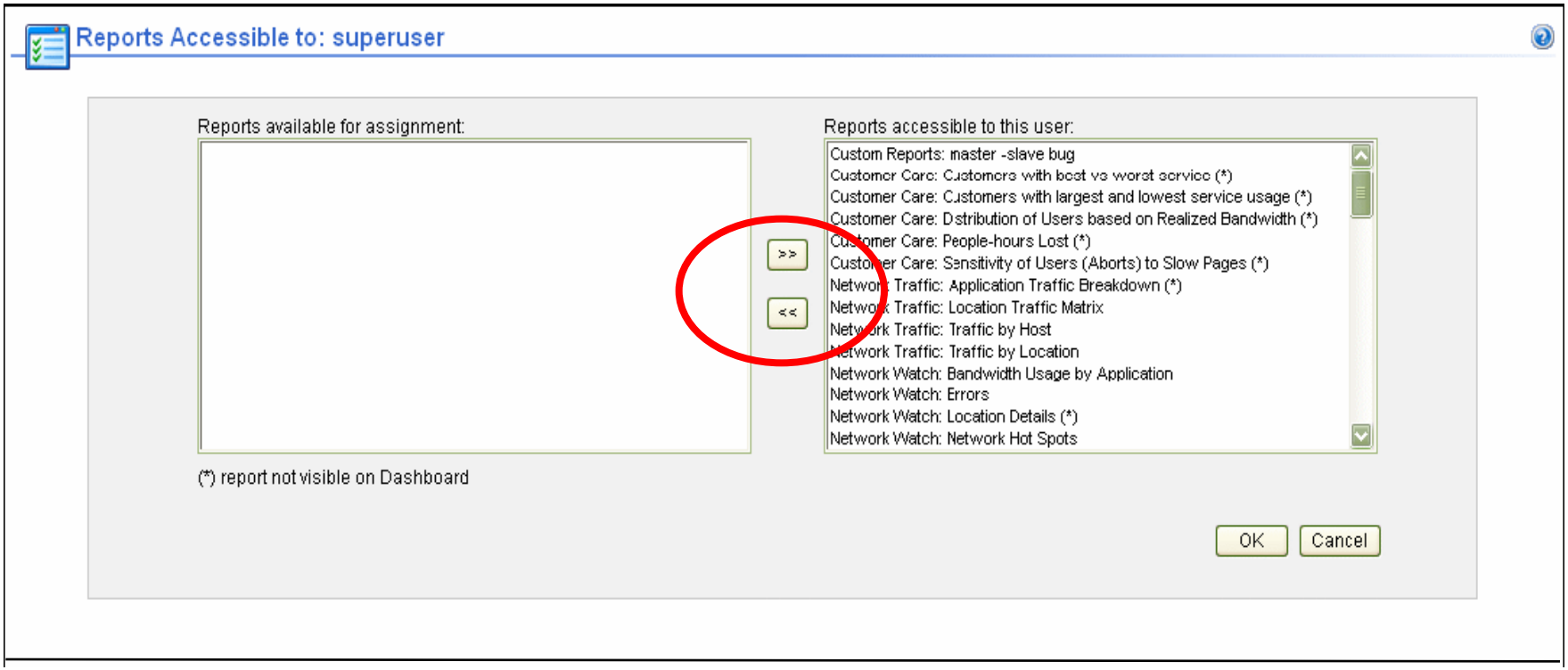
LAB – Configuring User Accounts

– To assign reports to a user, select one or more reports on the left and click the right pointing arrows (ADD).

Note: Screen below shows reports already assigned.



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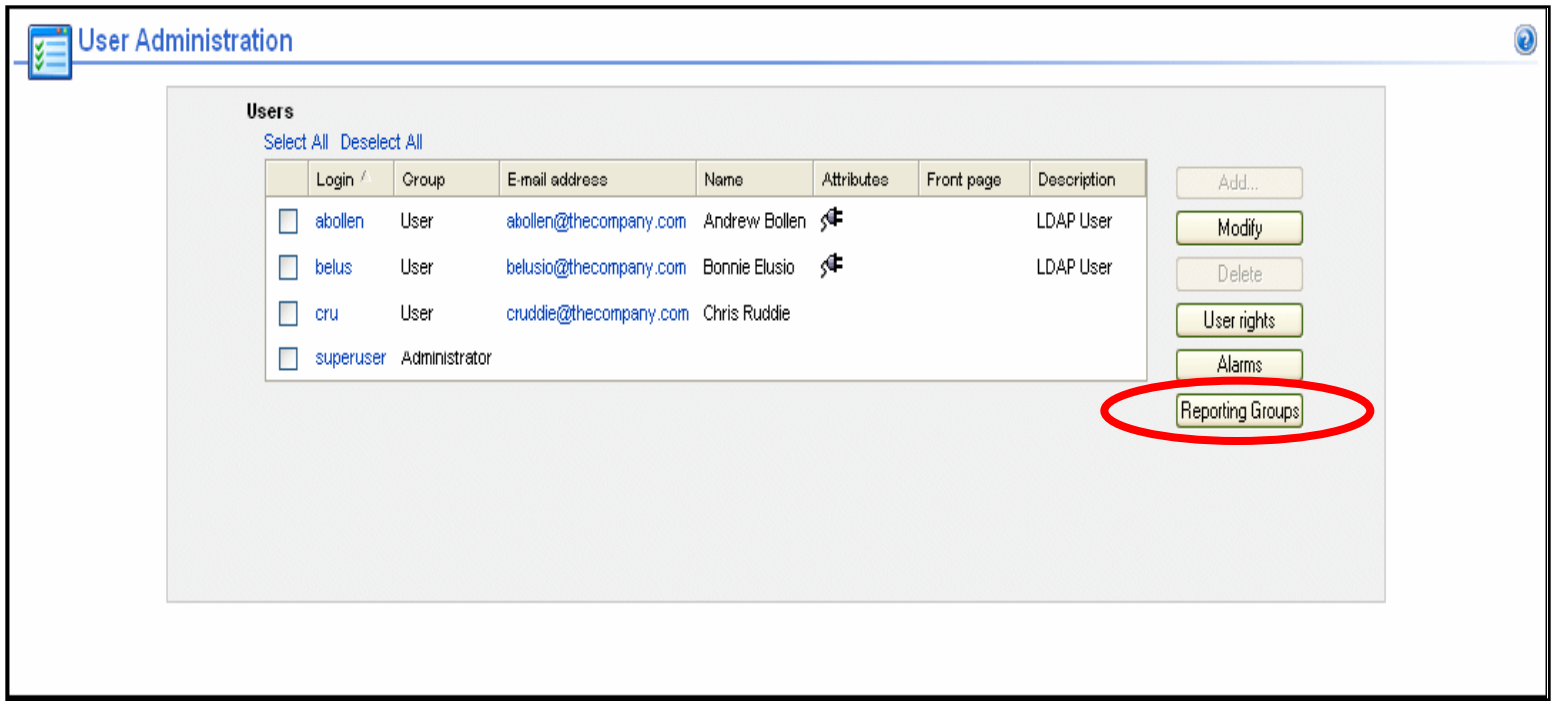
LAB – Configuring User Accounts

– Administrators can also assign reporting groups to users by selecting the user and clicking on the reporting groups button.



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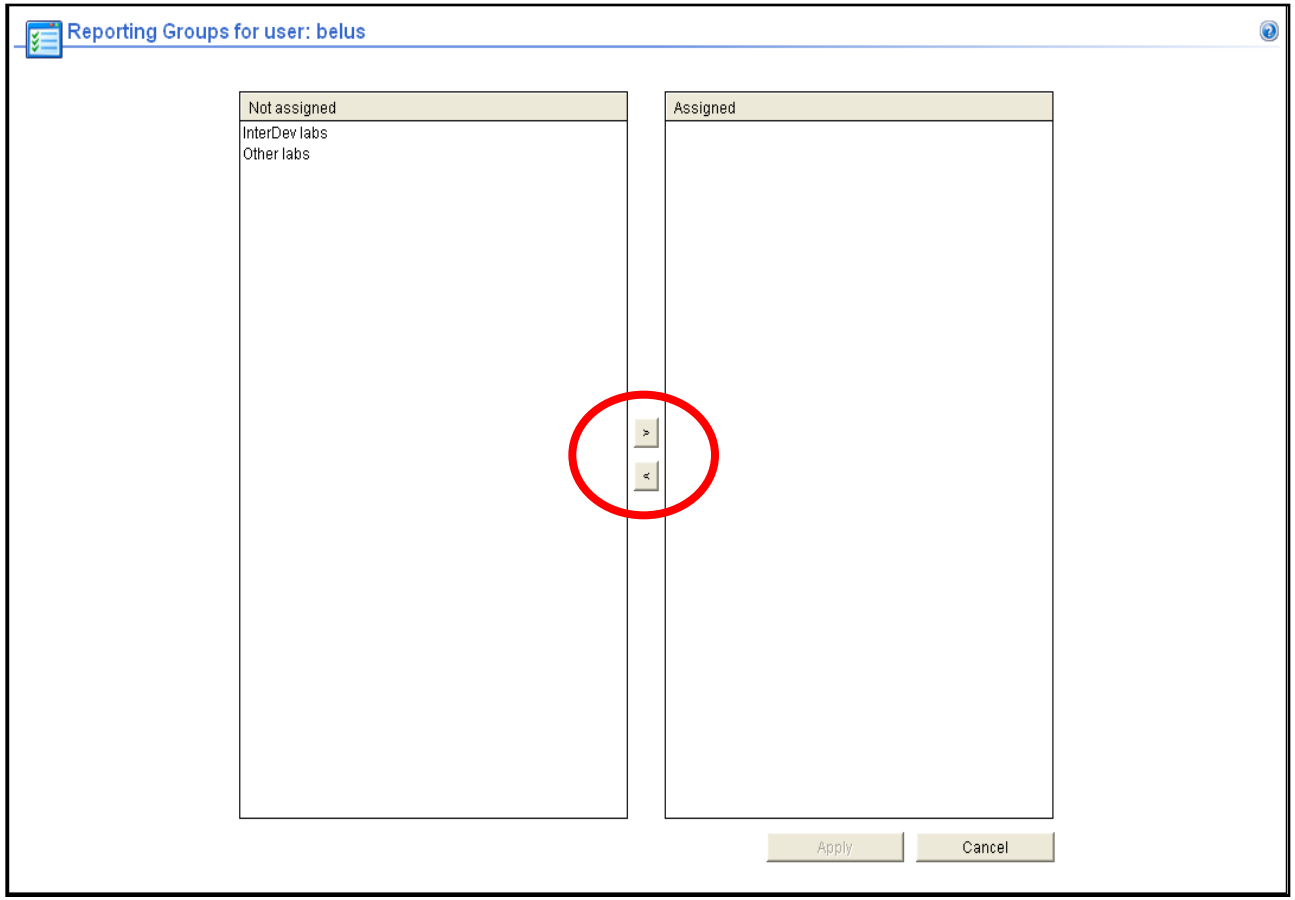
LAB – Configuring User Accounts



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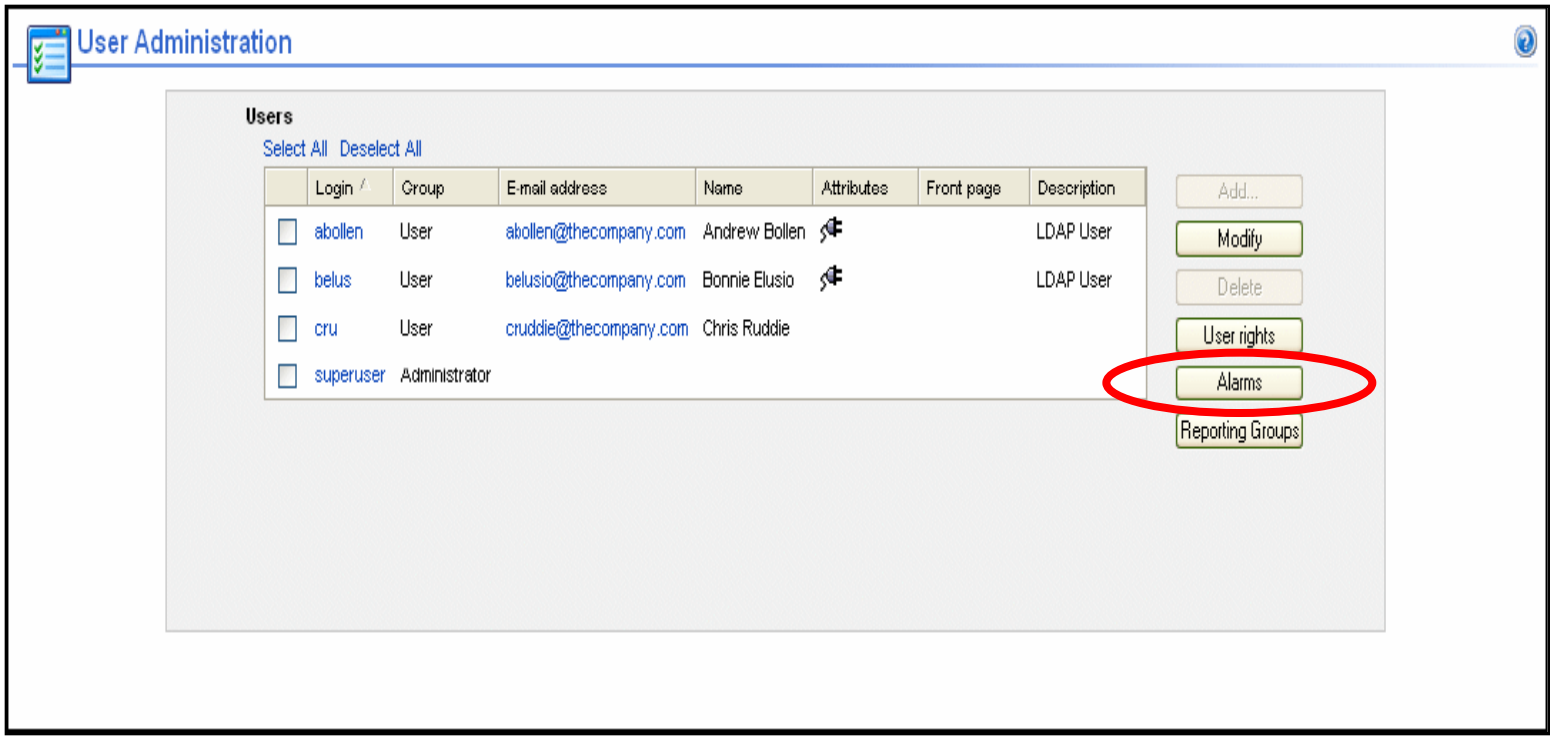
LAB – Configuring User Accounts

– Administrators can also assign Alarms to users by selecting the user and clicking on the Alarms button.



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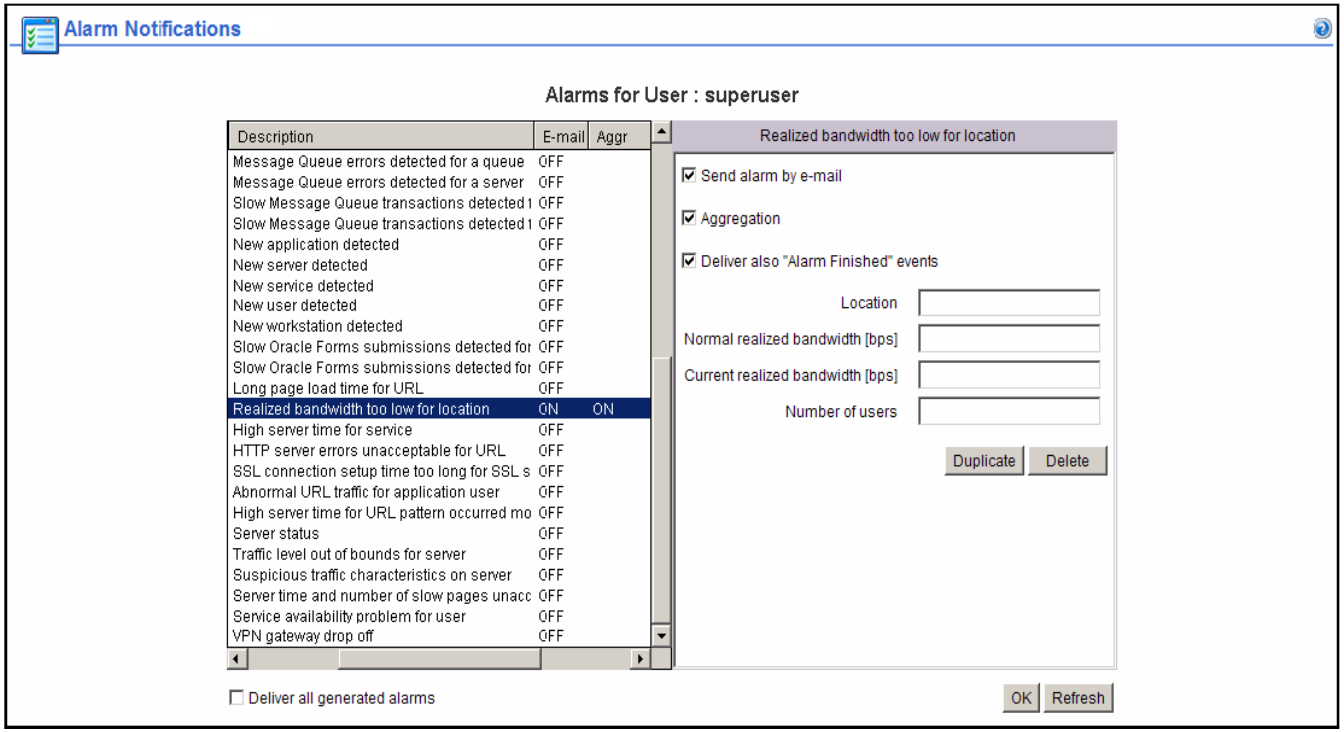
LAB – Configuring User Accounts

- To define alarm notifications for a user, select the user in the checkbox column of the **User Administration** screen and click on the **Alarms** button.
  - Refer to alarm section for more information on alarms.



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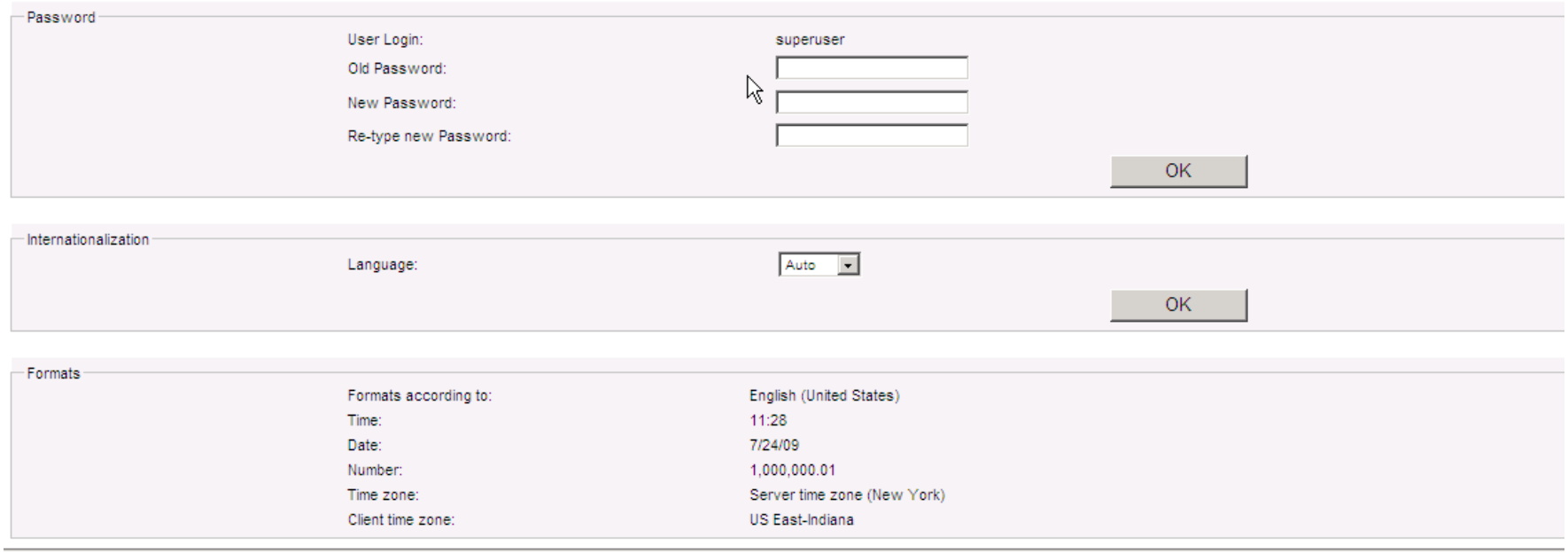
LAB – Configuring User Accounts

- You can change your user password by selecting menu option:
  - Settings → Security → User Settings



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LAB – Report Administration *(Use online demo)*

- You can change manage existing reports using the Load/Organize Reports option.
- The Load and Organize screen allows you to manage all of the reports that have already been saved.
- This includes re-assigning reports to different users, altering e-mailing instructions, saving reports under different names, and other functions.
- Access this by going to Reports -> Load/Organize Reports

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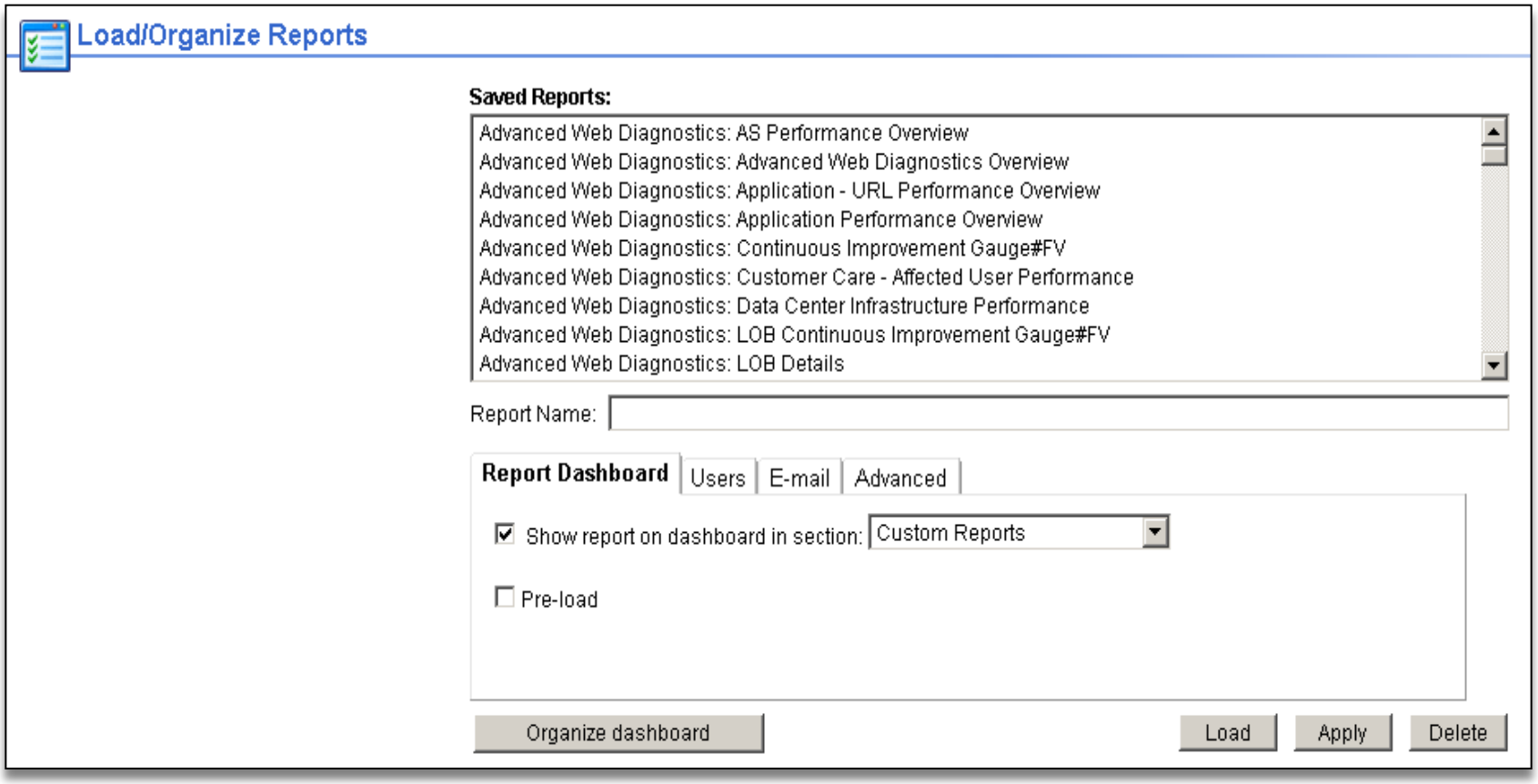
LAB – Report Administration

- Access this by going to Reports -> Load/Organize Reports



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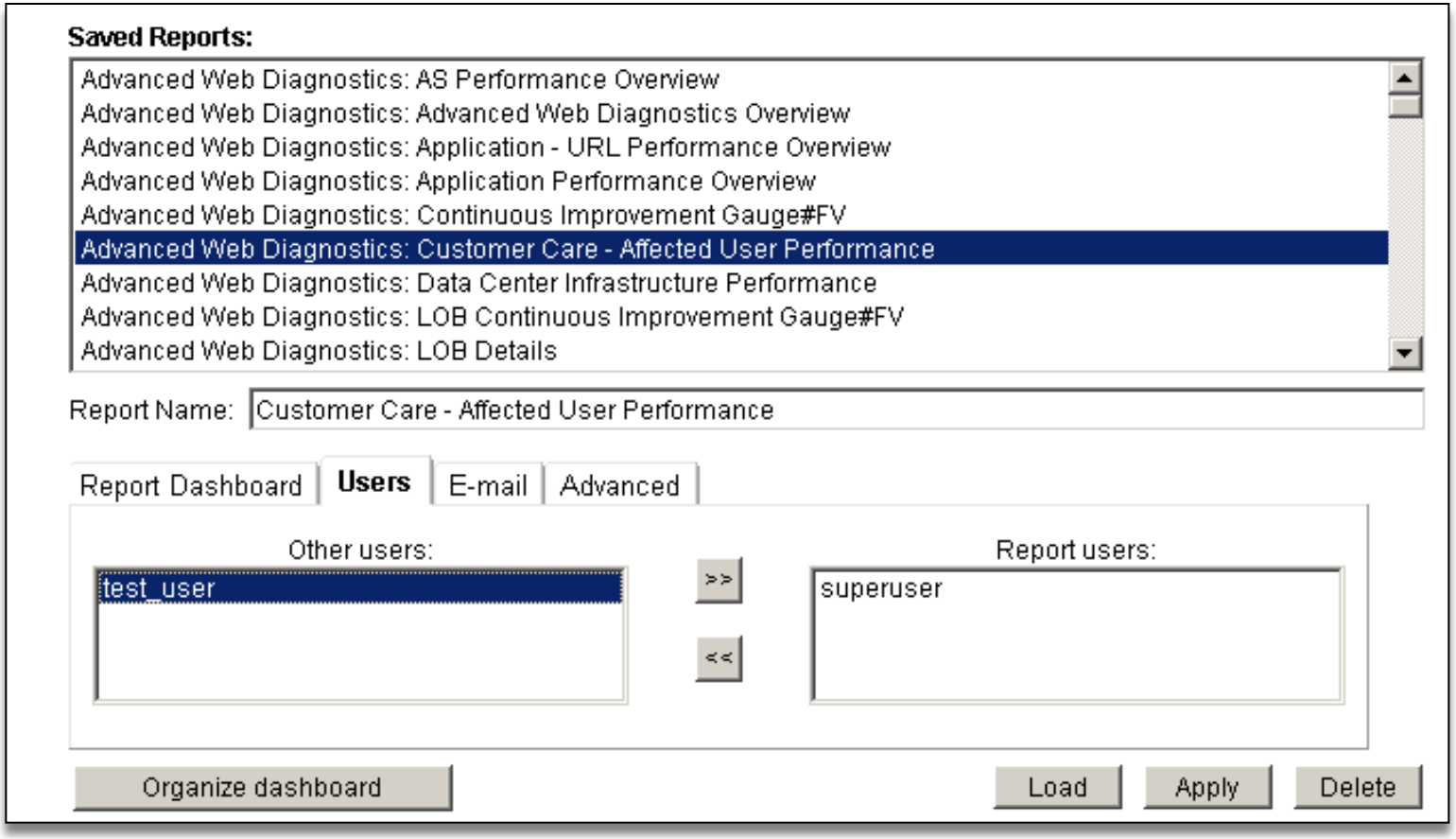
LAB – Report Administration

- Users can be allowed to access specific reports by using the Users tab under Load/Organize.



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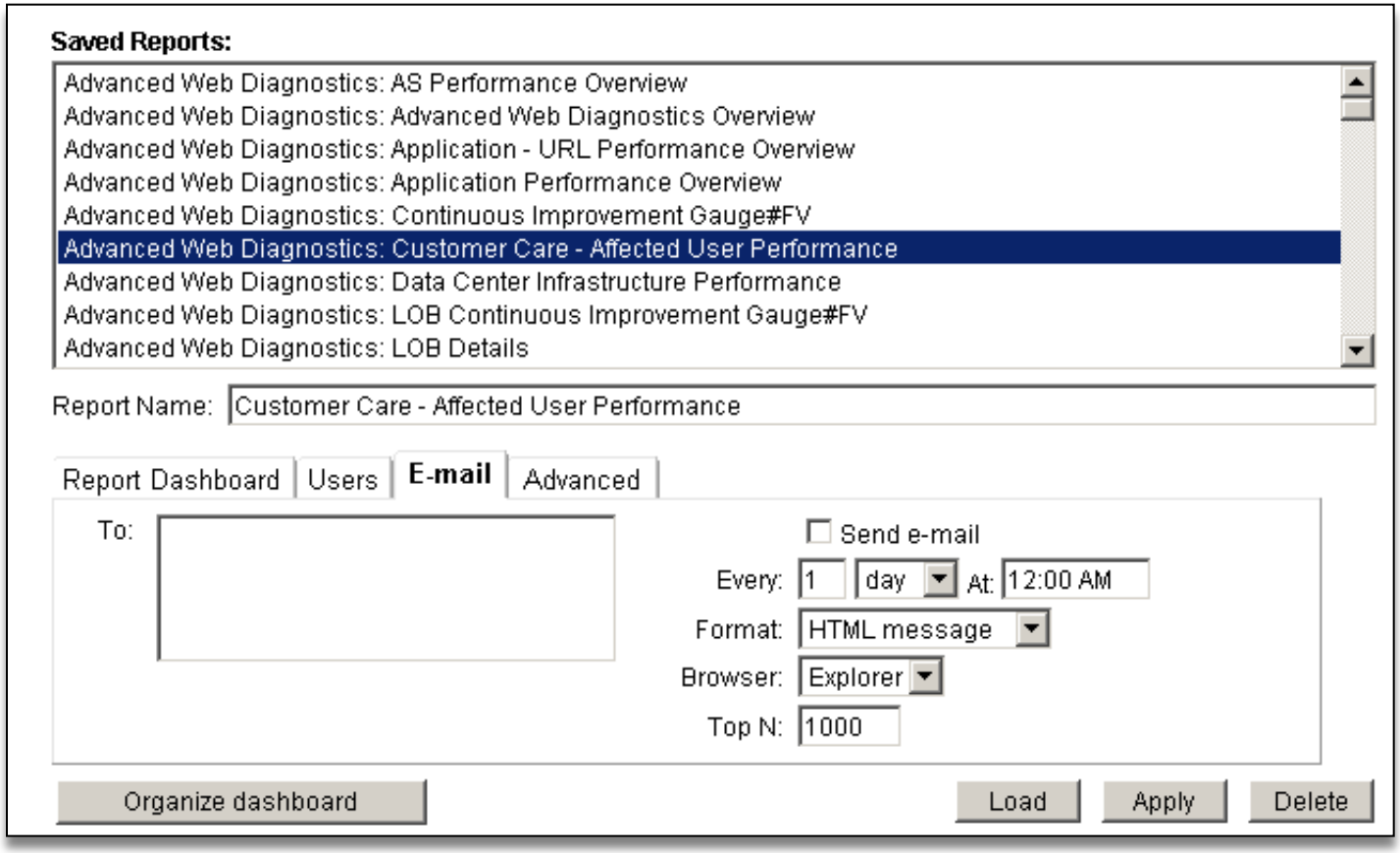
LAB – Report Administration

- Specific reports can be scheduled to be emailed at certain times and in several different formats (HTML, PDF, etc)



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LAB – Database Administration

- In this Lab, you will learn how to back up a database.
  - Before proceeding with a backup you need to make sure that there is enough free disk space to accommodate the backup file.
  - The backup file size will be similar in size to the amount of storage used by the database.
  - This can be checked in properties of database (**Size - Space available**).
- Stop the Server service: Right-click on the Service Manager icon in the system tray to pop up a menu, then select the Stop option.

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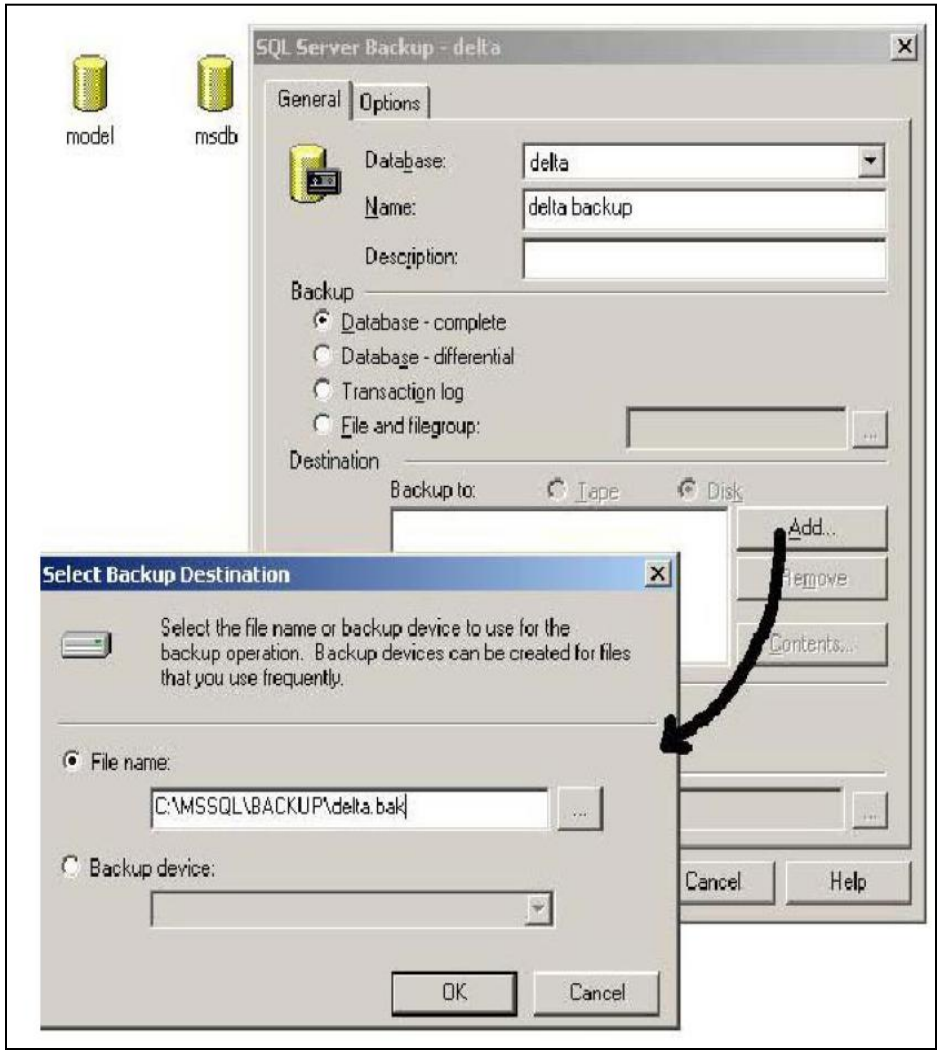
LAB – Database Administration

- From the Start menu launch: Start → Programs → Microsoft SQL Server → Enterprise Manager
- Navigate to: Server Group → Local → Databases → VAS/AWDS
- Right click on delta database, choose All tasks → Backup database
- Click on Add to add backup destination.



This document was produced by Compuware's Global Learning.

LAB – Database Administration

- Specify path and name of the file that will hold the database backup and click on **OK**.
- Check **Overwrite existing media** option on the next dialog box.
- Click **OK** to start the backup process.
- The **delta** database will now be backed up. After the backup is complete you can re-start the **Server** service.

This document was produced by Compuware's Global Learning.

LAB – Database Administration

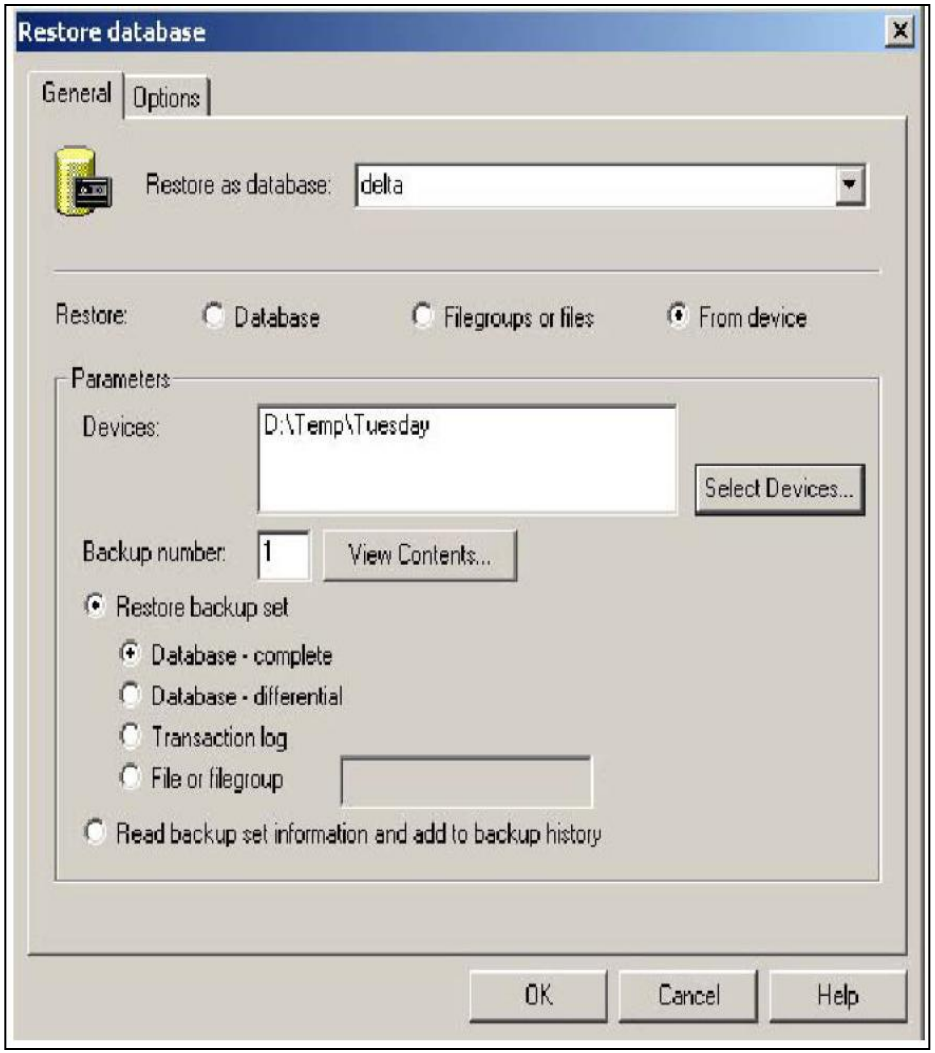
- Restoring a database
  - Read the latest database backup file from whatever storage media was used for the backup and unpack the file if it has been compressed.
  - Stop **Server** service: Right-click on the **Service Manager** icon in the system tray to pop up a menu, then select the **Stop** option.
  - From the Start menu launch: Start → Programs → Microsoft SQL Server → Enterprise Manager
  - Navigate to: Server Group → Local → Databases → Delta database
  - Right click on **delta** database, choose All tasks → Restore database

This document was produced by Compuware's Global Learning.

LAB 15 – Database Administration

Restoring a database

- Select to restore **From device**.
- Click on **Select Devices** button and select the file that holds the **delta** database backup.
- Switch to **Options** tab and select **Force restore over existing database**. Make sure the file name and path are correct
- Click on **OK** to start the restore process.



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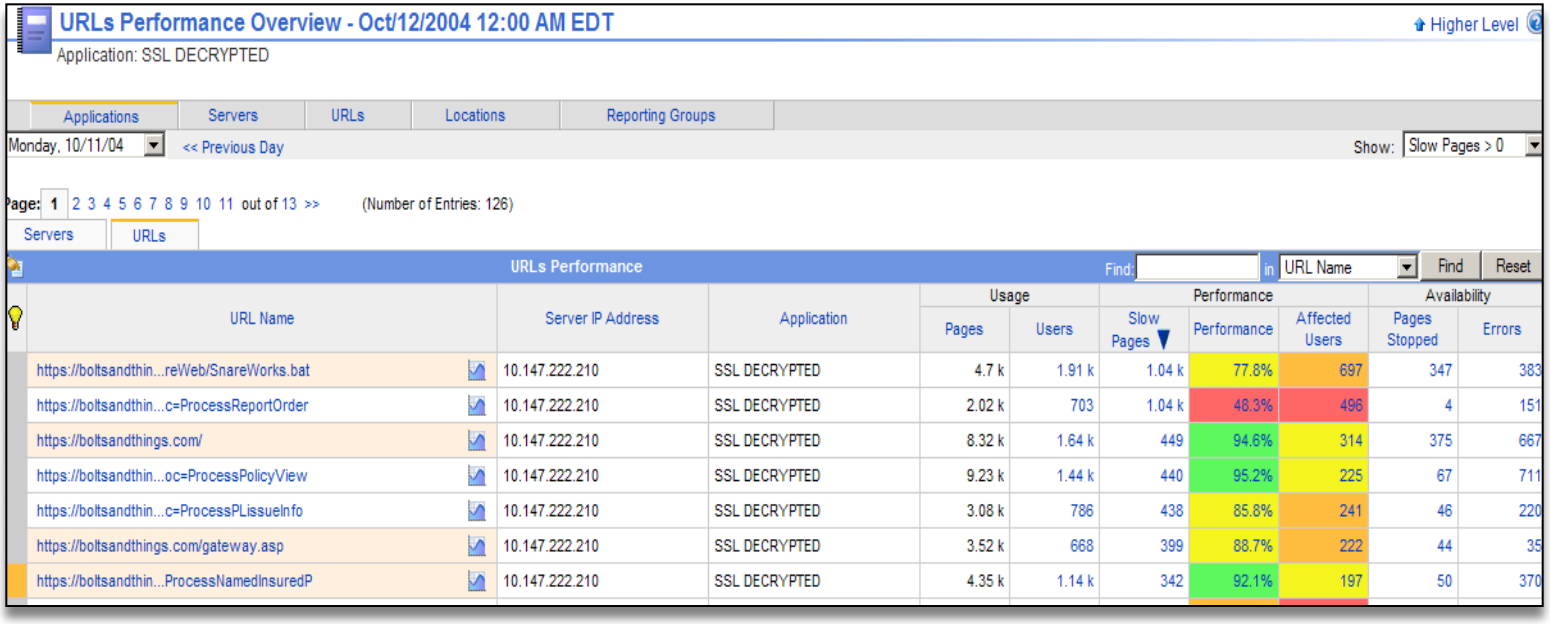
Analysis Modules

ClientVantage Agentless Monitoring

- Let's go over some of the analysis modules available.
- SSL/HTTPS
  - SSL traffic is decrypted before calculations
    - A critical aspect of this capability is the ability to differentiate between a home page and order processing page.
    - This is done via the URL and POST parameter support.
  - The system doesn't store sensitive data like PWDs and Account #s.



URL Name	Server IP Address	Application	Usage		Performance			Availability	
			Pages	Users	Slow Pages	Performance	Affected Users	Pages Stopped	Errors
https://boltsandthin...reWeb/SnareWorks.bat	10.147.222.210	SSL DECRYPTED	4.7 k	1.91 k	1.04 k	77.8%	697	347	383
https://boltsandthin...c=ProcessReportOrder	10.147.222.210	SSL DECRYPTED	2.02 k	703	1.04 k	48.3%	496	4	151
https://boltsandthings.com/	10.147.222.210	SSL DECRYPTED	8.32 k	1.64 k	449	94.6%	314	375	667
https://boltsandthin...oc=ProcessPolicyView	10.147.222.210	SSL DECRYPTED	9.23 k	1.44 k	440	95.2%	225	67	711
https://boltsandthin...c=ProcessPLissueInfo	10.147.222.210	SSL DECRYPTED	3.08 k	786	438	85.8%	241	46	220
https://boltsandthings.com/gateway.asp	10.147.222.210	SSL DECRYPTED	3.52 k	668	399	88.7%	222	44	35
https://boltsandthin...ProcessNamedInsuredP	10.147.222.210	SSL DECRYPTED	4.35 k	1.14 k	342	92.1%	197	50	370

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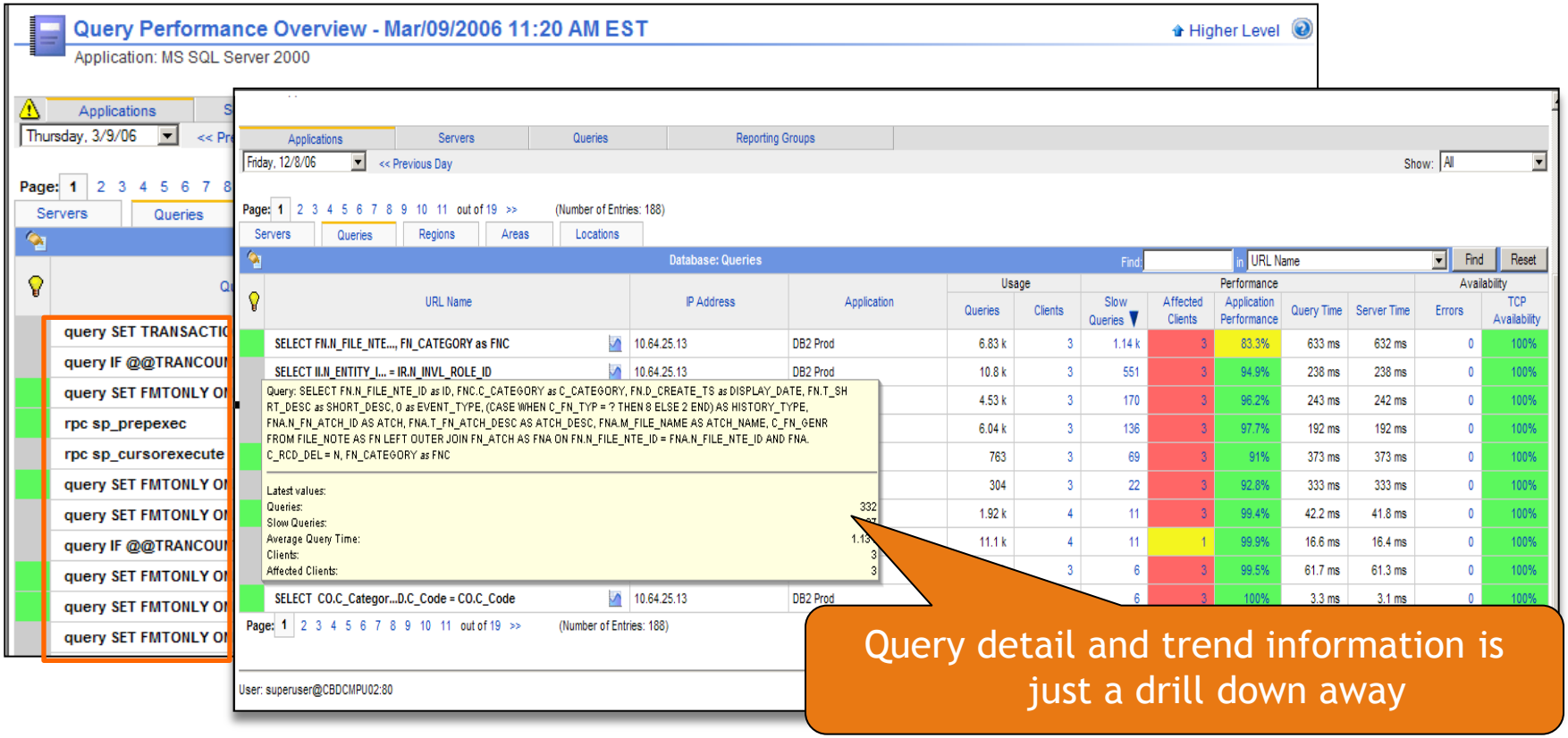
ClientVantage Agentless Monitoring

- Database decodes:
  - Oracle, MSSQL, DB2, Sybase, Informix, etc..
  - Queries are discovered, base-lined & thresholded.



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ClientVantage Agentless Monitoring

- Citrix:

All of the normal Performance views and reports are available for the Apps, Server and Users

Citrix Application Performance Overview - Mar/09/2006 11:20 AM EST

Applications | Servers

Thursday, 3/9/06 << Previous Day

Citrix Application Performance Overview

Application	Usage		Network Performance		Avai
	Client Volume	Server Volume	Affected Users	TCP Errors	
Citrix	64.4 MB	71.6 MB	4	0	100%

Server Performance Stats are available in real time and trended

Citrix Server Performance Overview - Mar/09/2006 11:20 AM EST

Applications | Servers

Thursday, 3/9/06 << Previous Day

Citrix Server Performance Overview

Find: in Server Name Find Reset

Server Name	Server IP Address	Application	Usage			Network Performance		Availability		Resources				
			Client Volume	Server Volume	Users	Network Performance	Affected Users	TCP Errors	TCP Availability	CPU utilization	Disk utilization	Memory utilization	Total sessions	Active sessions
10.0.9.98	10.0.9.98	Citrix	18.4 MB	23 MB		99.2%	2	0	100%	5%	0%	27%	6	2
corhoucis42f	10.0.9.110	Citrix	24.4 MB			100%	0	0	100%	3%	0%	27%	8	3
							2	0	100%	0%	0%	0%	0	0

User IDs are based on their Citrix Login ID

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ClientVantage Agentless Monitoring

- Transactional Services (XML, SOAP, Jolt, Tuxedo, etc.)

Each message or call is tracked separately and treated like any other transaction in the system (pages, queries, etc)

Transactional Services: Application Performance Overview - Mar/09/2006 11:20

Applications | Servers | Reporting Groups

Thursday, 3/9/06 << Previous Day

Transactional Services: Application Performance Overview

Application	Analyzer	Usage: Transactions	Usage: Clients	Availability: TCP Availability	Availability: Affected Clients	Slow Transactions	Transaction Time	Affected Clients	Rollbacks	Network: Client RTT	Network: Server Loss Rate	Network: Network Performance	Network: Affected Clients	Errors
Peoplesoft	JOLT (Tuxedo)	65.3 k	0	N/A	0	2.62 k	1.58	0	153	0.1 ms	8%	N/A	0	153

User: vas@AACRS04:80 Report generated: 1/24/07 8:35 AM EDT Version: 5.0.0.230

Transactional Services: Transaction Types Performance Overview - Mar/09/2006 11:20 AM EST

Application: Peoplesoft

Higher Level

Applications | Servers | Reporting Groups

Thursday, 3/9/06 << Previous Day

Servers | Transaction Types | Regions | Locations

Transactional Services: Transaction Types Performance Overview

Transaction Type	Server IP Address	Application	Usage: Transactions	Usage: Clients	Availability: TCP Availability	Availability: Affected Clients	Performance: Slow Transactions	Performance: Transaction Time	Performance: Server Time	Performance: Application Performance	Performance: Affected Clients	Performance: Rollbacks	Network: Client RTT	Network: Server Loss Rate	Network: Network Performance	Network: Affected Clients	Errors
GET_SERVICE_DEF SVC/ICWorkList	multiple	Peoplesoft	64	0	N/A	0	0	1 ms	1 ms	100%	0	0	0.1 ms	0%	N/A	0	0
GET_SERVICE_DEF SVC/PsmChkRptAuth	multiple	Peoplesoft	132	0	N/A	0	0	0.8 ms	0.8 ms	100%	0	0	0.1 ms	0%	N/A	0	0
GET_SERVICE_DEF SVC/ICQuery	multiple	Peoplesoft	189	0	N/A	0	0	0.8 ms	0.8 ms	100%	0	0	0.1 ms	0%	N/A	0	0
CALL ICWorkList	multiple	Peoplesoft	453	0	N/A	0	65	6.63 s	2.26 s	85.7%	0	0	0.1 ms	1.2%	N/A	0	0
GET_SERVICE_DEF SVC/ICPanel	multiple	Peoplesoft	914	0	N/A	0	0	0.9 ms	0.9 ms	100%	0	0	0.1 ms	0%	N/A	0	0
GET_SERVICE_DEF SVC/ICScript	multiple	Peoplesoft	930	0	N/A	0	0	0.8 ms	0.8 ms	100%	0	0	0.1 ms	0%	N/A	0	0
CALL GetCertificate	multiple	Peoplesoft	1.01 k	0	N/A	0	10	532 ms	226 ms	99%	0	125	0.1 ms	0%	N/A	0	125
CALL PsmChkRptAuth	multiple	Peoplesoft	1.02 k	0	N/A	0	15	100 ms	100 ms	98.5%	0	0	0.1 ms	0%	N/A	0	0
CALL ICQuery	multiple	Peoplesoft	1.03 k	0	N/A	0	194	11.2 s	7.13 s	81.1%	0	0	0.1 ms	16.1%	N/A	0	0
GET_SERVICE_DEF SVC/GetCertificate	multiple	Peoplesoft	1.13 k	0	N/A	0	0	0.8 ms	0.8 ms	100%	0	0	0.1 ms	0%	N/A	0	0
LOGON	multiple	Peoplesoft	1.27 k	0	N/A	0	0	3.1 ms	3.1 ms	100%	0	0	0.1 ms	0%	N/A	0	0

This document was produced by Compuware's Global Learning.

ClientVantage Agentless Monitoring

- Message queue:

MQ Operations and Transactions are discovered and handled like all the other transactions in the system

Monitor Performance by Queues and Calls

Message Queue: Transaction Types - Dec/08/20

Application: Message Queue P1

Higher Level

Applications | Servers | Trans | Reporting Groups

Friday, 12/8/06 << Previous Day

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 297 >> (Number of Entries: 2963)

Servers | Transaction Types | Regions | Locations

Message Queue: Transaction Types

Find: in Transaction Type Find Reset

Transaction T	IP Address	Application	Usage		Performance						Availability
			Transactions	Clients	Slow Transactions	Transaction Time	Server Time	Affected Clients	Transaction Size	Application Performance	Errors
MQ-GET	10.64.25.13	Message Queue P1	785 k	24	404 k	9.2 s	2.08 s	14	488 B	48.5%	0
MQP1:MQP.CLQCC.CLI00001.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	21.5 k	2	21.5 k	30.1 s	10.1 s	2	492 B	0%	0
MQP1:MQP.PLINE.CPIPWPDS.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	21 k	2	21 k	30.1 s	N/A	2	492 B	0%	0
MQP1:MQP.PLINE.CMOD.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	31.5 k	2	15.8 k	2.53 s	2.53 s	2	492 B	50%	0
MQP2:MQP.CIS.PROCCTR.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	29.9 k	2	14.9 k	2.5 s	2.5 s	2	492 B	50%	0
MQP1:MQP.CLENT.TRNPGETQ.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	29.6 k	2	14.8 k	2.53 s	2.53 s	2	492 B	50%	0
MQP1:MQP.CIS.CPXLATE.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	29.6 k	2	14.8 k	2.53 s	2.53 s	2	492 B	50.1%	0
MQP1:MQP.OCBA.CUWENTRY.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	26.7 k	2	13.3 k	2.53 s	2.53 s	2	492 B	50%	0
MQP1:MQP.DOCU.CDPC.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	26.7 k	2	13.2 k	2.51 s	2.51 s	2	492 B	50.4%	0
MQP1:MQP.CLQCC.CDS00001.REQUEST.Q1 MQ-GET	10.64.25.13	Message Queue P1	11 k	2	11 k	30.1 s	30.1 s	2	492 B	0%	0

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 297 >> (Number of Entries: 2963)

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- Oracle Forms:

Oracle Forms: Forms - Oct/13/2006 10:05 AM EDT

Applications | Servers | Forms | Reporting Groups

Friday, 10/13/06 << Previous Day

Page: 1 2 >> (Number of Entries: 32)

Oracle Forms: Forms — Find: in Form name Find Reset

Form Name	Usage: Form Submissions	Usage: Client Volume	Usage: Server Volume	Usage: Users	Performance: Slow Form Submissions	Performance: Form Submission Time	Performance: Server Time	Performance: Affected Users	Performance: Application Performance	Availability: Errors
ParentT-Find@@Contro...@%ModuleN-[FNDSCSGN]	9	8.93 kB	117 kB	1	0	2.61 s	74.8 ms	0	100%	0
ParentT-Find Invoice...@%ModuleN-[FNDSCSGN]	5	1.89 kB	1.82 kB	1	1	873 ms	31.9 ms	1	80%	0
ParentT-Daily Rates@...@%ModuleN-[FNDSCSGN]	4	868 B	8.27 kB	1	0	239 ms	20 ms	0	100%	0
Form: ParentT-Find Invoices@@ControlT-Supplier: Name@@ClassN-TextFieldItem@@PropertyN-skey@@%ModuleN-[FNDSCSGN]		965 B	17.1 kB	1	0	441 ms	19 ms	0	100%	0
There are no detectedform submissions		369 B	1.34 kB	1	0	175 ms	30.1 ms	0	100%	0
ParentT-Find Purchas...@%ModuleN-[FNDSCSGN]	2	1.44 kB	23.9 kB	1	0	1.41 s	266 ms	0	100%	0
ParentT-Batch @@Cont...@%ModuleN-[FNDSCSGN]	1	0.99 kB	8.28 kB	1	0	1.91 s	7.4 ms	0	100%	0
ParentT-Navigator - ...@%ModuleN-[FNDSCSGN]	1	2.05 kB	79.5 kB	1	0	1.53 s	3.8 ms	0	100%	0
ParentT-Enter Journa...@%ModuleN-[FNDSCSGN]	1	682 B	3.51 kB	1	0	1.15 s	18.1 ms	0	100%	0
ParentT-Daily Rates@...@%ModuleN-[FNDSCSGN]	1	181 B	413 B	1	0	49.5 ms	6.3 ms	0	100%	0
ParentT-Daily Rates@...@%ModuleN-[FNDSCSGN]	1	181 B	407 B	1	0	159 ms	8.9 ms	0	100%	0
ParentT-Suppliers @@...@%ModuleN-[FNDSCSGN]	1	477 B	1.1 kB	1	0	1.17 s	18.1 ms	0	100%	0
ParentT-Organization...@%ModuleN-[FNDSCSGN]	1	701 B	9.15 kB	1	0	1.19 s	2.9 ms	0	100%	0
ParentT-Suppliers @@...@%ModuleN-[FNDSCSGN]	1	549 B	4.57 kB	1	0	1.25 s	0.2 ms	0	100%	0
ParentT-Segment Valu...@%ModuleN-[FNDSCSGN]	1	251 B	231 B	1	0	148 ms	10.7 ms	0	100%	0
ParentT-Supplier Sit...@%ModuleN-[FNDSCSGN]	1	134 B	253 B	1	0	41.7 ms	41.7 ms	0	100%	0
ParentT-Daily Rates@...@%ModuleN-[FNDSCSGN]	1	272 B	887 B	1	0	181 ms	2.4 ms	0	100%	0
ParentT-Daily Rates@...@%ModuleN-[FNDSCSGN]	1	468 B	604 B	1	0	1.15 s	19.6 ms	0	100%	0
ParentT-Find Journal...@%ModuleN-[FNDSCSGN]	1	1.4 kB	27.9 kB	1	0	1.52 s	394 ms	0	100%	0
ParentT-Payment Acti...@%ModuleN-[FNDSCSGN]	1	170 B	499 B	1	0	196 ms	51.6 ms	0	100%	0

Oracle Forms transactions are monitored and handled like all the other transactions in the system

This document was produced by Compuware's Global Learning.

Troubleshooting & Best Practices

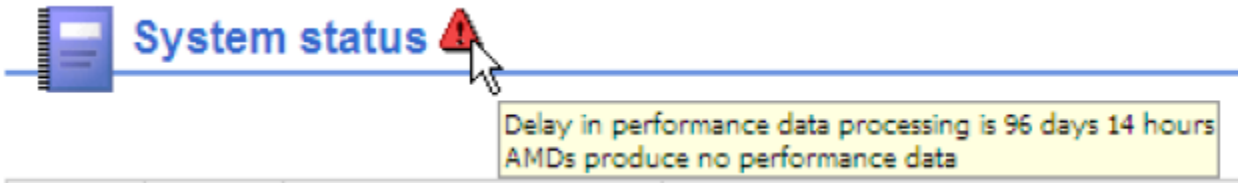
- VAS/ADS
  - System Health check
  - Memory indicator
  - The red triangle
  - Client/Server limit breached
  - Scalability issues
  - VAS service cannot start (port, db)

- AMD
  - NIC errors
  - Interface utilization
  - AMD Connection ethtool eth0
  - Delayed Data file processing
  - Scalability issues & AMD Restarts

VAS Error Codes

Status	Status color	Status icon
OK		
Warning		
Error		

- The System Status report allows users to confirm that the system is operating correctly or to identify problems and their potential causes. Some issues are also reported at runtime on report screens by showing a status icon next to the report title. A short problem description is displayed in the icon's tooltip.



This document was produced by Compuware's Global Learning.

How to recover forgotten “delta” DB user password

- Current “delta” DB user password is kept in encrypted form in VAS\AWDS config file : \config\repository.properties
- JDBC_USER=delta
- JDBC_PASSWORD_ENC=796A157C3F22E7E16D6A9F3EABB23DAA
- In order to decrypt the password go to Tools->Diagnostics->Console and execute command:
- PSWD DECRYPT 796A157C3F22E7E16D6A9F3EABB23DAA

Lack of application performance & availability metrics

- Check if the report is not run for non-business hours by any chance as Application performance and Availability metrics are only calculated for business hours.
- Check the holiday calendar.

Website Status: URLs - 4/1/10 09:35 CEST

Software services | Servers | URLs | Sites | Reporting Groups | Sta

Time range: Thursday, 4/1/10 (Today) << 4/1/10 00:00 - 4/1/10 09:35 >>

Page: 1 2 3 4 5 6 7 8 9 10 11 out of 27 >> (Number of entries: 525)

Find:

	Page Name/URL		Usage		Performance				Availability		
			Pages	Unique users	Slow pages	Application performance ▲	Affected users	Page load time	Pages stopped	Errors	Application responses
https://	.../elenco_polizze.jspx		1	1	0	-	0	4.58 s	0	0	0
https://	...onali/preferiti.jspx		1	1	0	-	0	2.61 s	0	0	0
https://	.../dati_personali.jspx		5	4	0	-	0	2.14 s	0	0	0
https://	...erazioni_veloci.jspx		4	3	2	-	0	11.7 s	0	0	0
https://	...ici_e_giroconti.jspx		2	1	0	-	0	1.52 s	0	0	0
https://	...giroconti_step2.jspx		3	1	0	-	0	2.6 s	0	0	0
https://	...titoli_conferma.jspx		1	1	0	-	0	964 ms	0	0	0
https://	..._conto_corrente.jspx		3	3	0	-	0	2.53 s	0	0	0

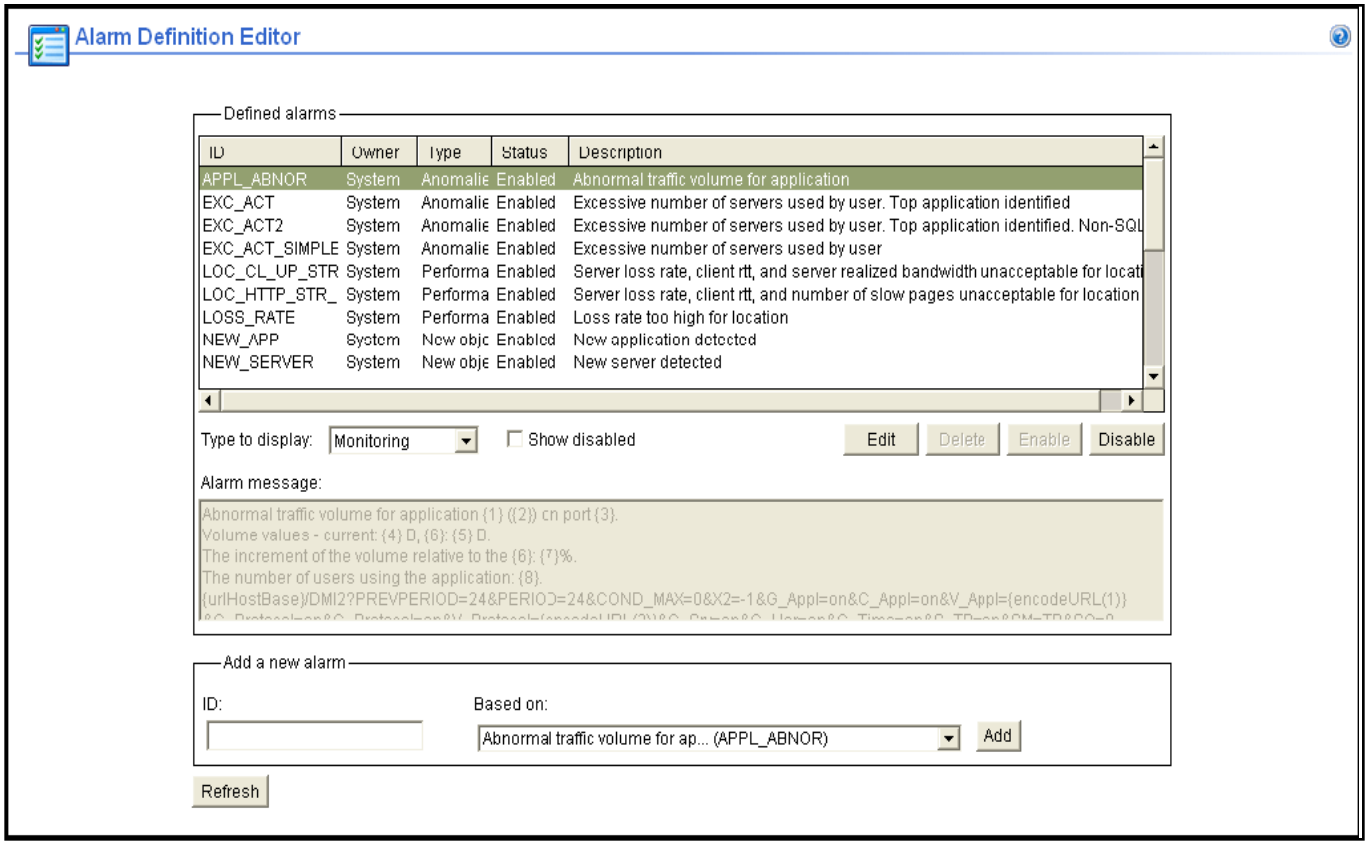
Compuware Technical Support

- Frontline access for updates and service packs
- Email to southeastasia helpdesk for any issue with RUM
- Provide export config file (*if asked by support*)
- Provide the screenshots of the problem
- Provide necessary log files
- Provide the complete version of the product with the build number

Alarms

ClientVantage Agentless Monitoring

- CVAM can issue an alarm when thresholds for applications are breached.
- Existing alarm definitions can be edited or new alarms can be created to monitor for these thresholds.



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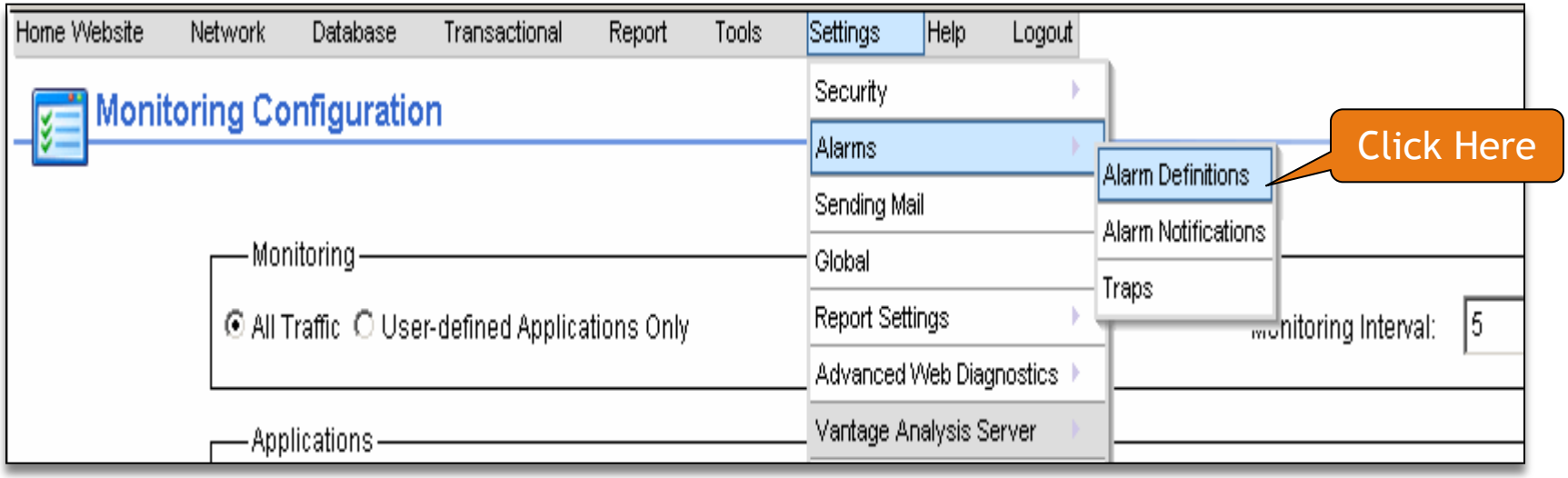
ClientVantage Agentless Monitoring

- Alarms are used to notify of an event. They can be set on an metric that is collected. These metrics can be evaluated against static values, or the automatic baselines generated by ClientVantage Agentless.

- Alarms are flexible, can be are configured using logical relationships, and can be circulated by SNMP and/or email.

  – The MIB can be loaded into a trap received tool to present the trap in a meaningful way.



This document was produced by Compuware's Global Learning.

ClientVantage Agentless Monitoring

Vantage Agentless alarming is built on a Four-layer architecture, with advanced filtering options available in each layer:

1. Micro-events - Identify all situations meeting a certain logical condition (threshold violation). Internally used only, not available for users.

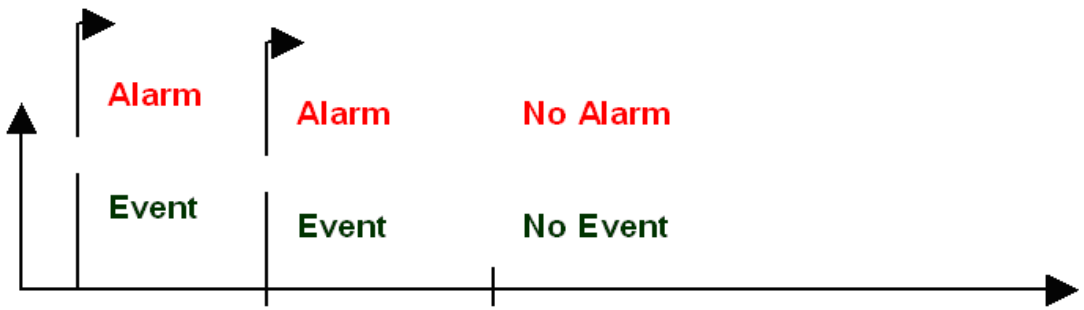
2. Simple Alarms - Decide if an alarm has to be raised.

3. Complex Alarms - Combine Simple Alarms by means of a logical condition.

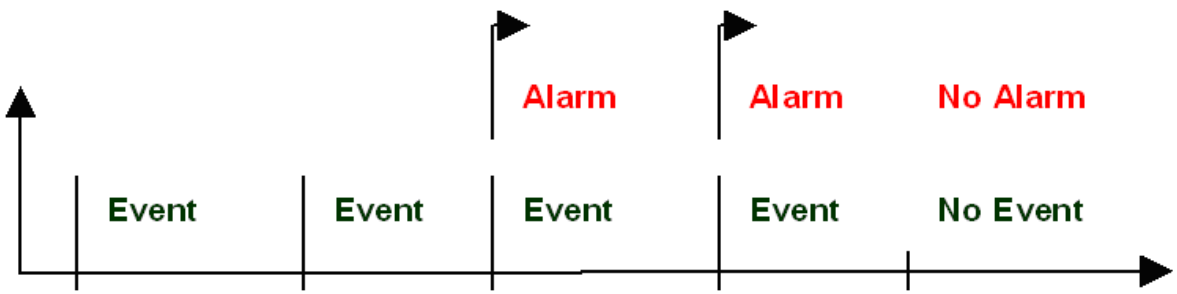
4. Distribution - Decide whether an alarm notification should be sent, to whom and in what form, and send the alarm notification if it is required.

This document was produced by Compuware's Global Learning.

Alarm Conditions

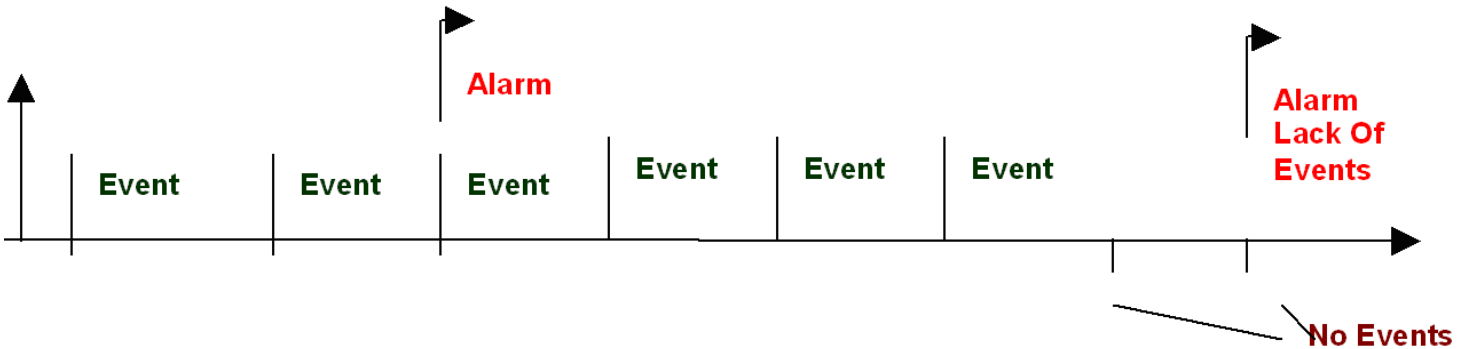


The simplest case when an alarm is raised immediately after an event

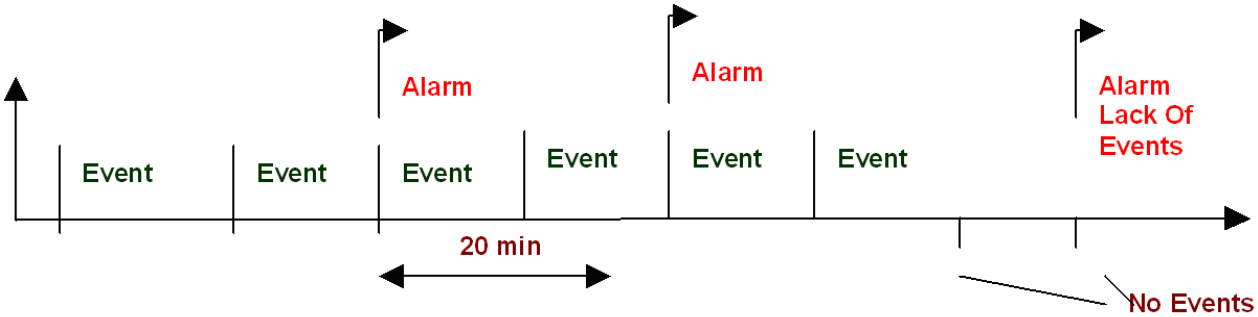


An alarm is activated after a certain number of consecutive occurrences of the triggering event (three). After that, the alarm continues until the events cease to occur.

Alarm Conditions



A situation where an alarm is triggered after an event has occurred a number of times in a row (three), and another alarm is triggered when the same event failed to occur for a number of times (two).



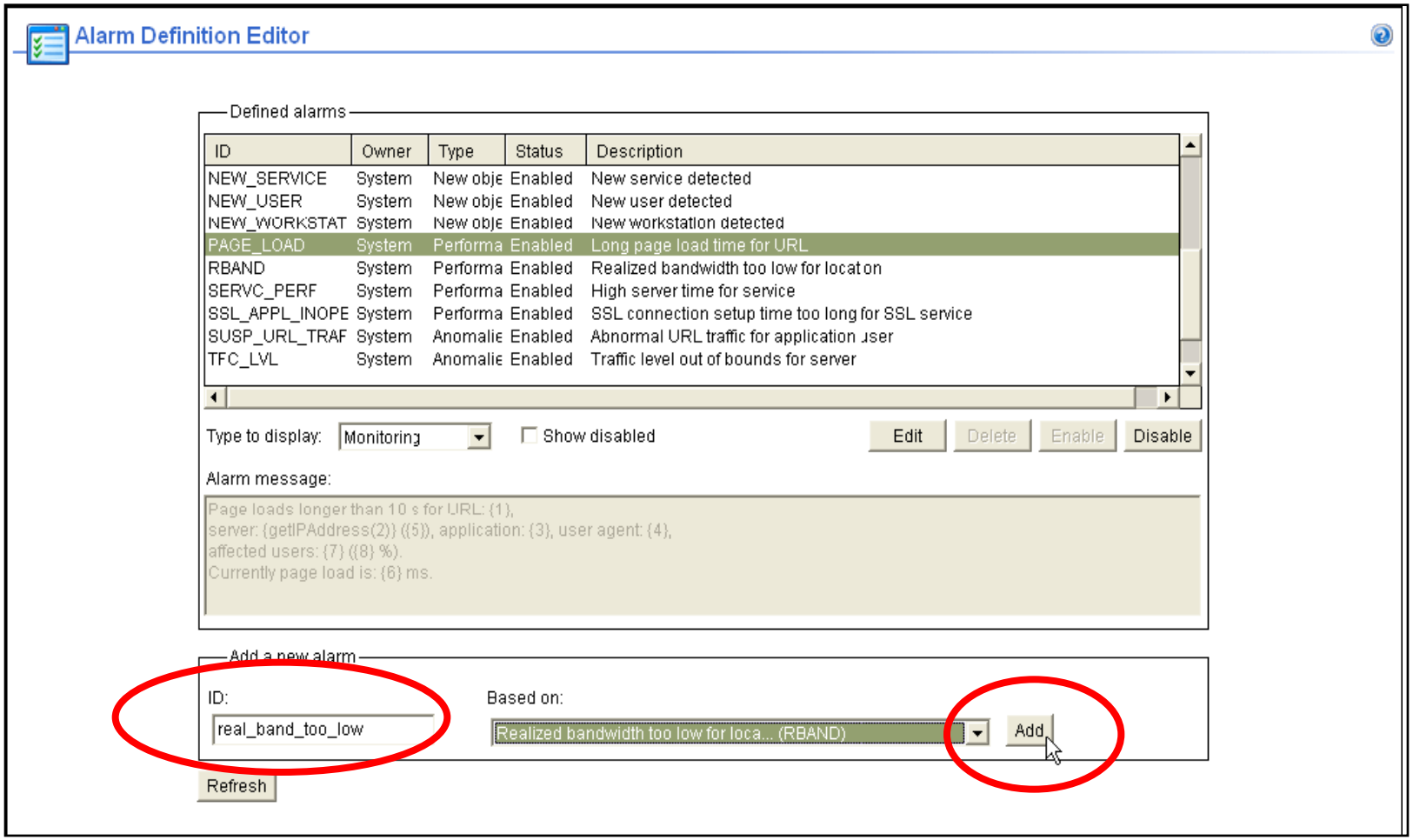
An alarm is triggered after a number of consecutive occurrences of an event (three) and later on, another alarm is triggered after the event failed to occur a number of time in a row (two). In addition, another alarm is triggered a certain time (20 minutes) after the first alarm.

LAB – Configuring Alarms

- In this lab, you will define an alarm called “Realized bandwidth too low”.
- This alarm will detect a situation when a location gets a realized bandwidth less than normal (average) value.
- Open the Alarm Definition Editor screen by selecting Settings-Alarms-Alarm definitions from the menu.
- Type in real_band_too_low
- Click drop down arrow to base this alarm on the RBAND alarm (realized bandwidth too low for location).
- Click Add

This document was produced by Compuware’s Global Learning.

LAB – Configuring Alarms



This document was produced by Compuware's Global Learning.

LAB – Configuring Alarms

- Once the definition screen opens, you will need to define the alarm.
- This alarm will use two detector parameters
  - Comparison Toggle
    - Determines the method of comparison of the current realized bandwidth to the normal (average, baseline) value of bandwidth (0).
  - Normal multiplier/Threshold
    - The threshold when the alarm is raised. This is entered as a percentage off the normal value.
    - Example – 60% off normal would be 0.6

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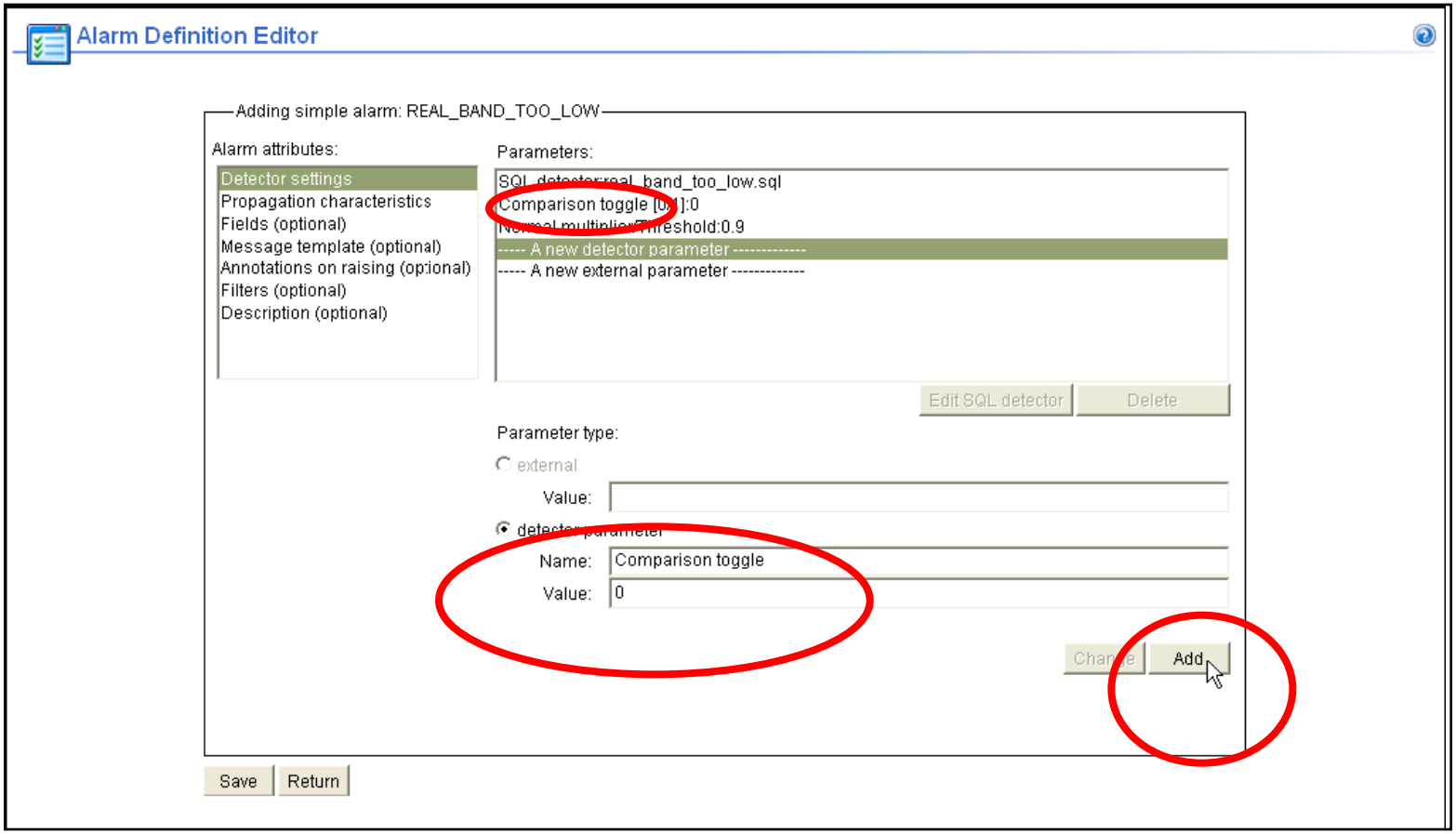
LAB – Configuring Alarms

- Comparison Toggle



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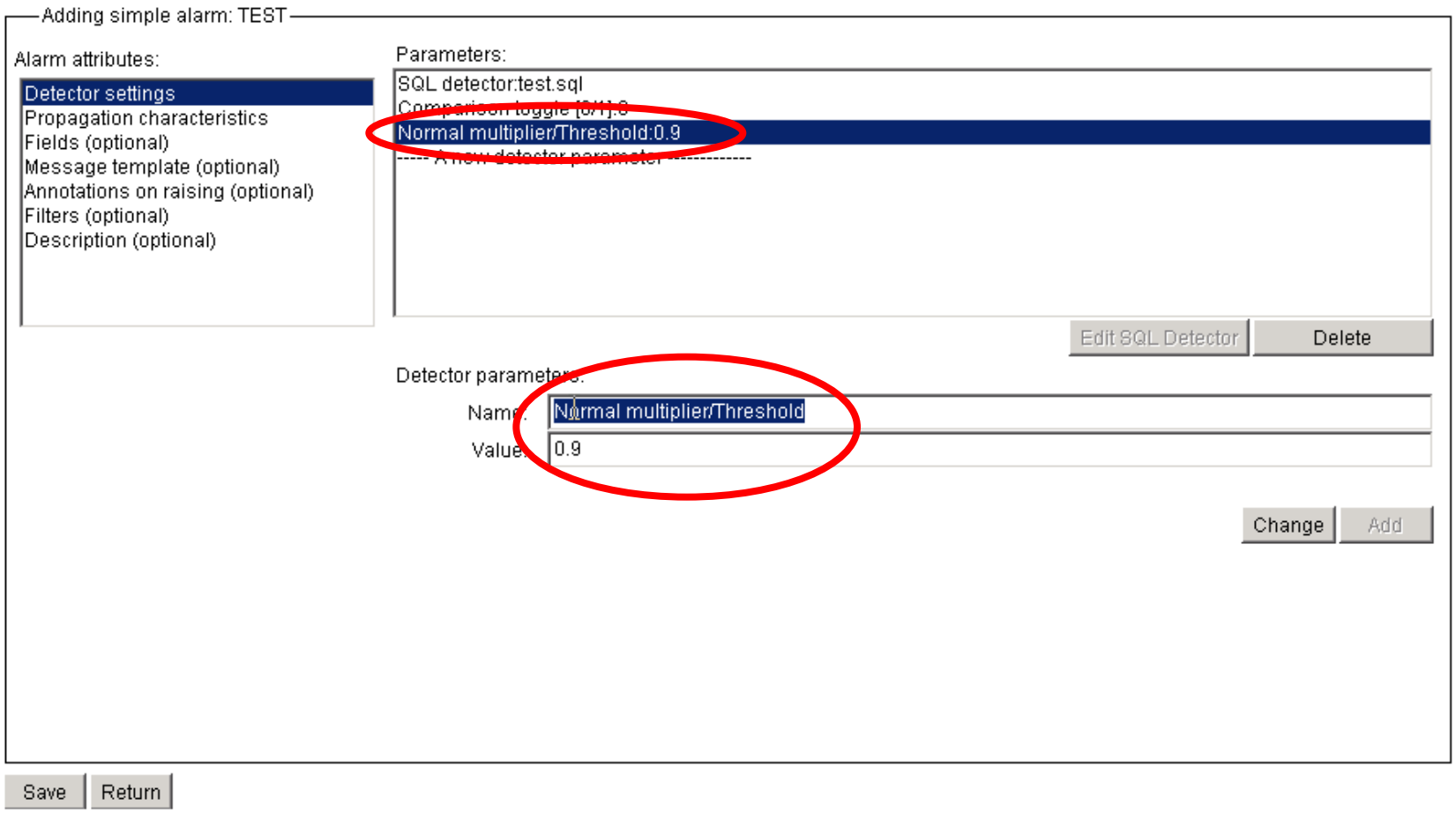
LAB – Configuring Alarms

- Normal multiplier/Threshold



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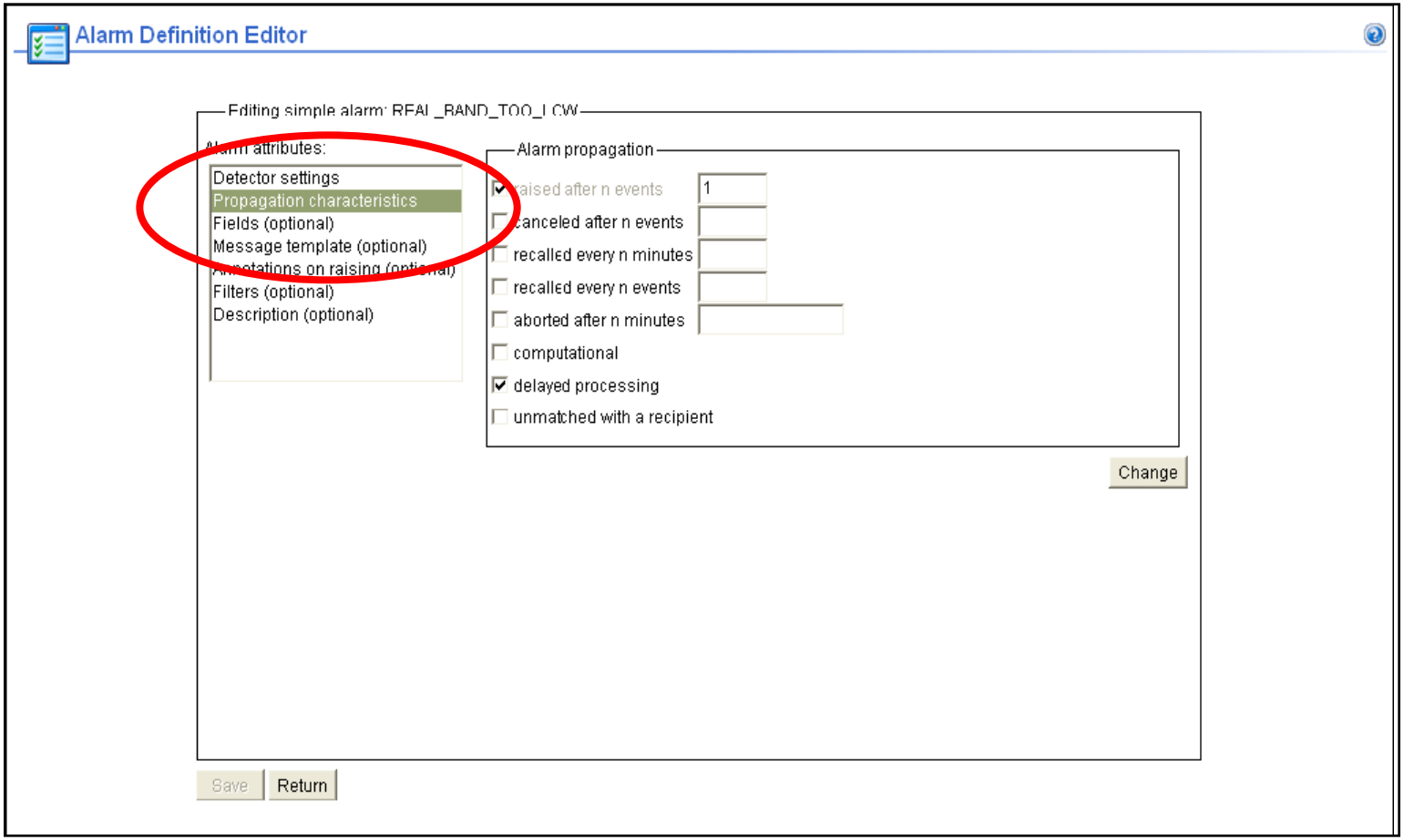
LAB – Configuring Alarms

- Click on Propagation Characteristics



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LAB – Configuring Alarms

- The next step is to set the alarm propagation characteristics.
- These determine how the alarm behaves.
  - **Raised after n events**: this is a number of micro events that must occur to raise the alarm.
  - **Canceled after n events**: this defines how many micro events must occur after the alarm to cancel it.
  - **Recalled every n minutes**: this determines how many minutes must lapse to re-issue the alarm notification.
  - **Recalled every n events**: this is a number of micro events that must occur, from the last notification of the same alarm type, to raise the alarm.

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LAB – Configuring Alarms

- **Aborted after n minutes**: this is a number that determines after how many minutes the outdated alarm must be canceled.

- **Computational:** this denotes the alarms that do not generate notification themselves but are necessary for correct detection of other alarms (sort of internal aids).

- **Delayed processing:** indicated alarms that will become active after a predefined time (default is 2 days) since the system startup. It is set for alarms that require normal values to be invoked correctly.

- **Unmatched with a recipient:** this option should be unchecked for alarms that are detected and stored only if there is a recipient of the alarm. It should be checked if the alarm engine does not require any recipient to send an alarm, i.e. alarms will be generated and stored in logs even if there are no recipients assigned to the alarm.

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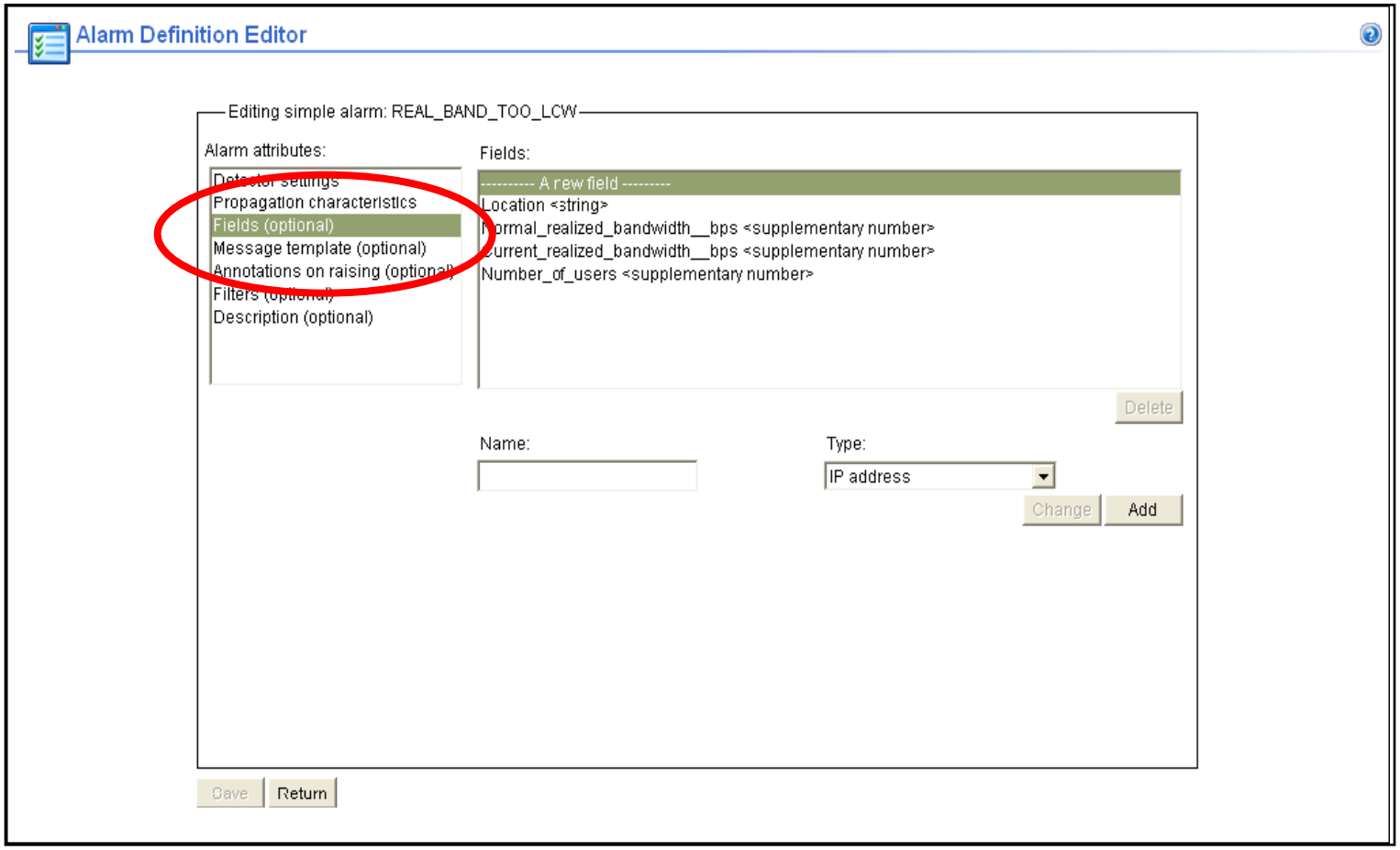
LAB – Configuring Alarms

- Click on Fields



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LAB – Configuring Alarms

- Alarms fields are the output message that will accompany the alarm.
- Changing these will change the alarm fields available in the message template.
- Clicking on Message Template will allow you to customize the message template.

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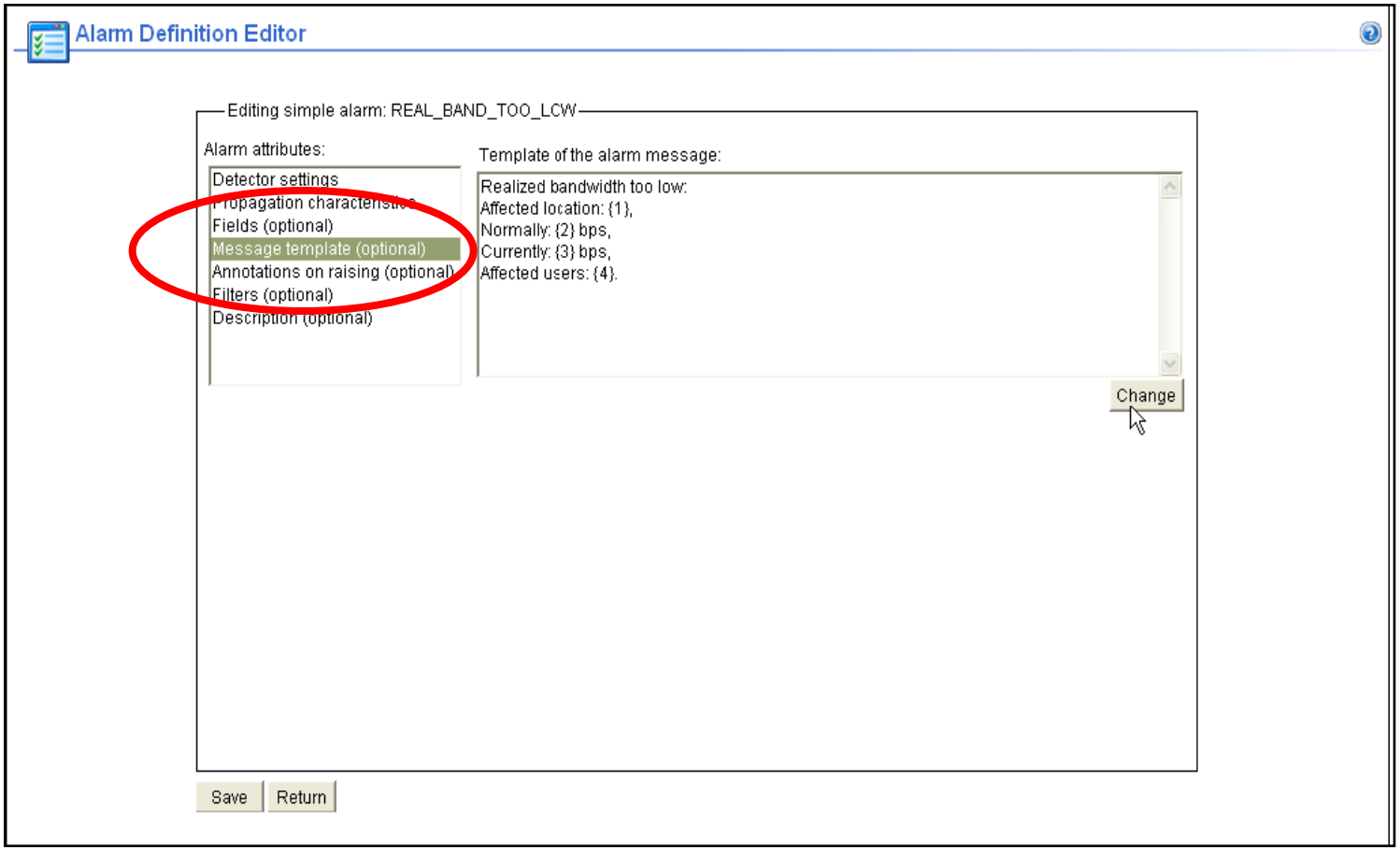
LAB – Configuring Alarms

- Message Template



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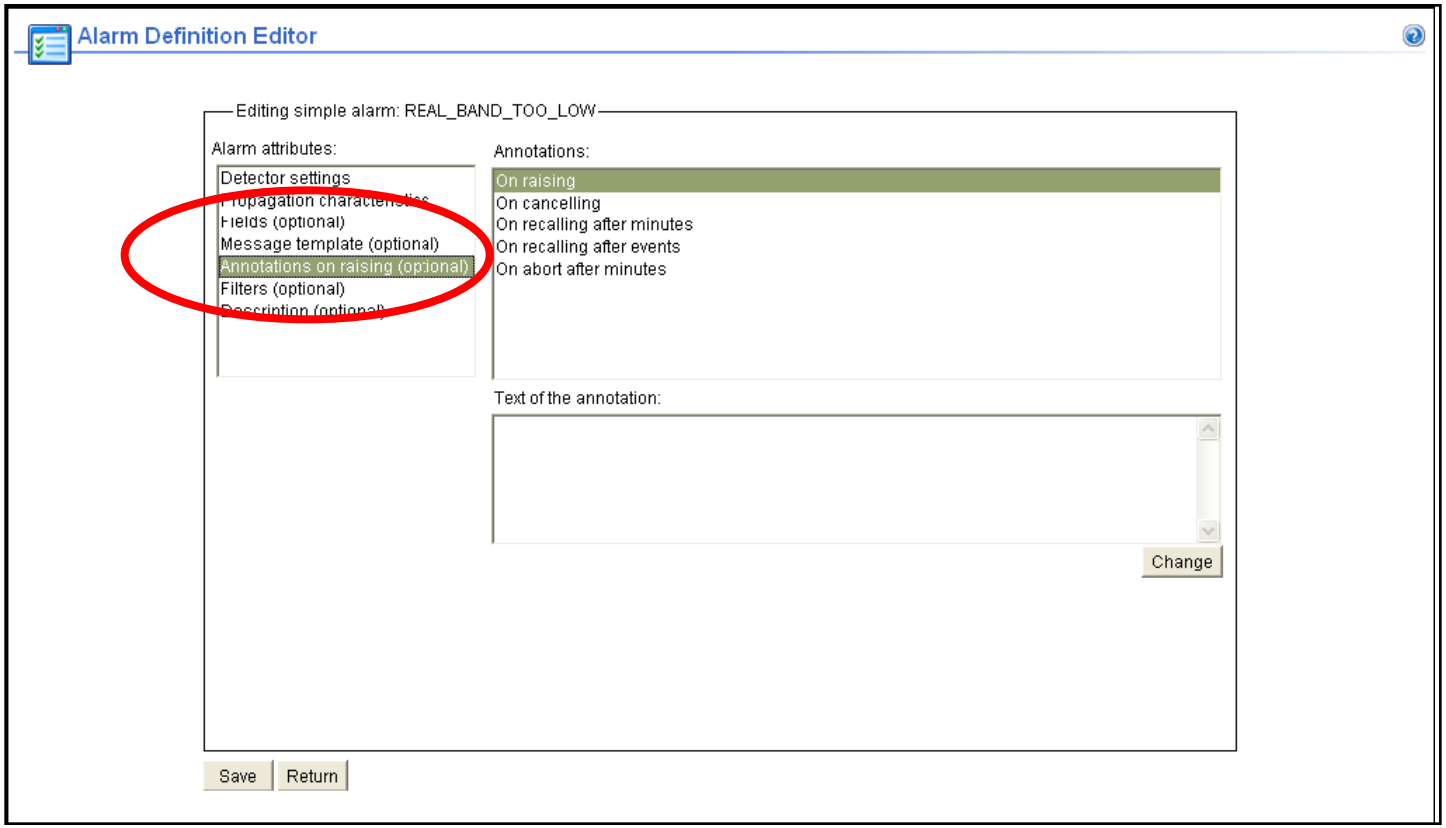
LAB – Configuring Alarms

- Annotations are optional and can be defined to distinguish circumstances when an alarm was raised.



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LAB – Configuring Alarms

- Filters are used to create conditions that the alarm must satisfy in order to execute.
- For a list of sample filters, refer to the VAM_SystemAdminManual pg. 150.
- Descriptions are used to provide a decent idea of what the alarm is to users.
- Once you have made the appropriate changes, click the save button to save your changes.

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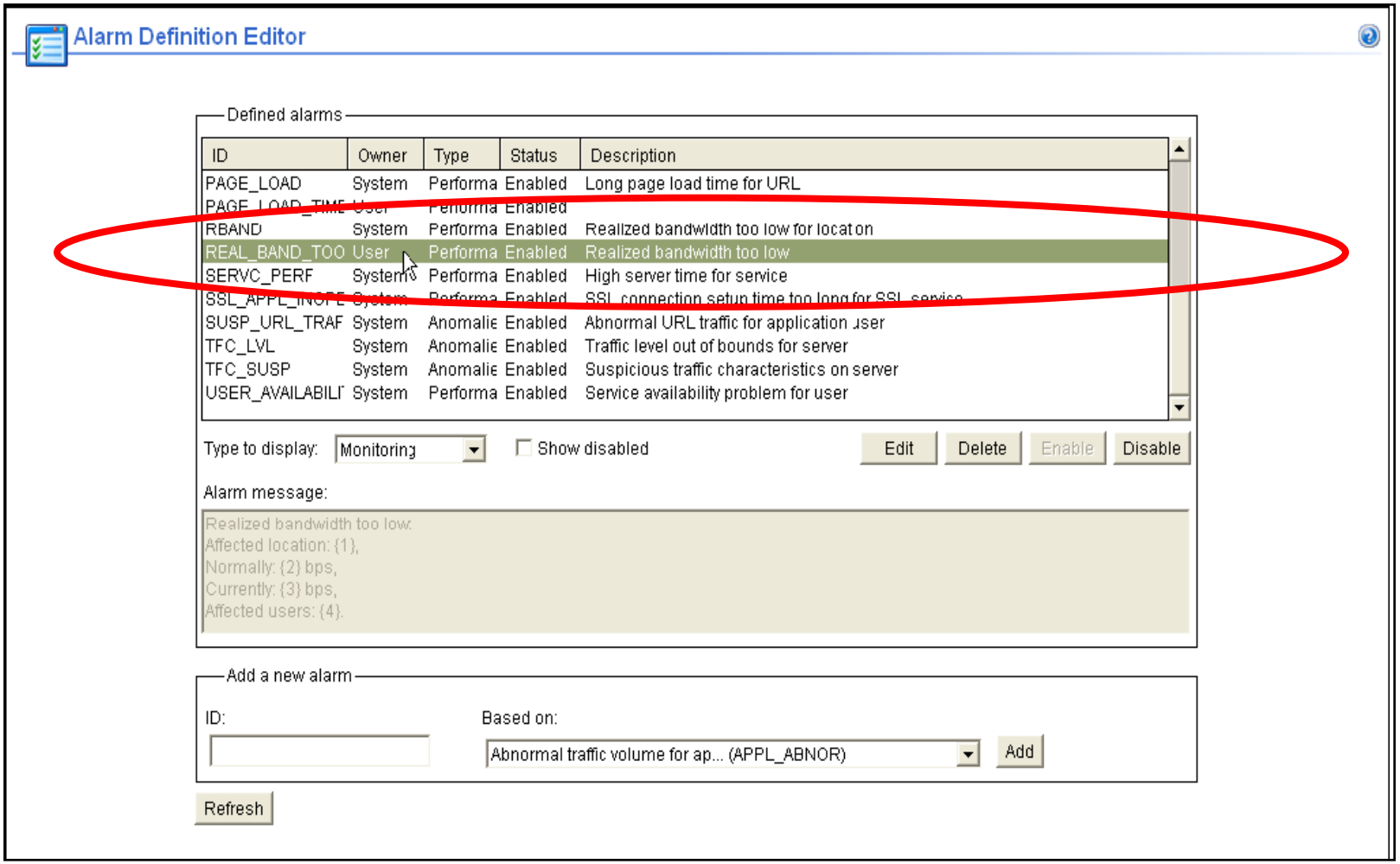
LAB – Configuring Alarms



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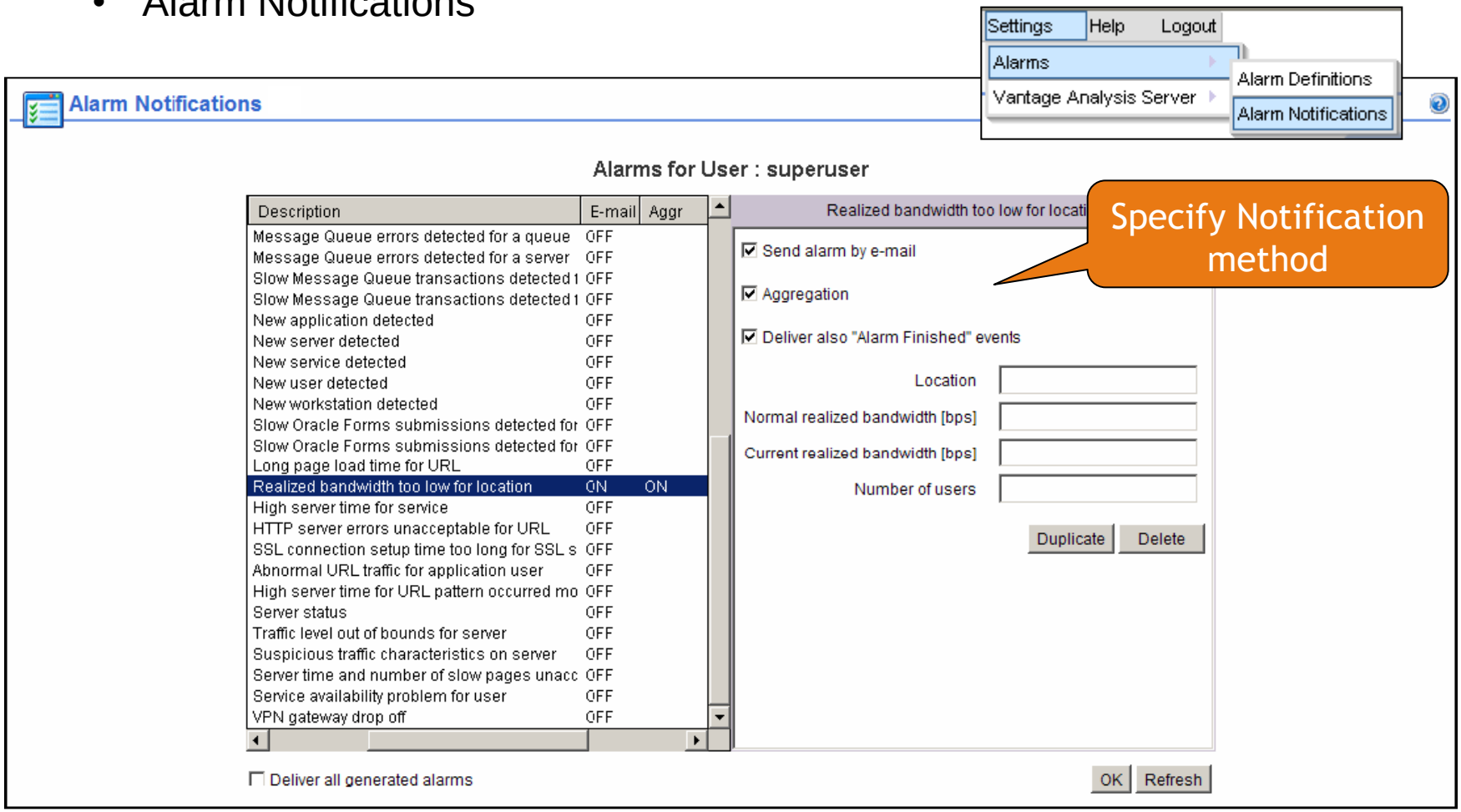
LAB – Configuring Alarms

- Alarm Notifications



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- Fundamental Metrics:
  - TCP Session Establishment – Round Trip Time (RTT)

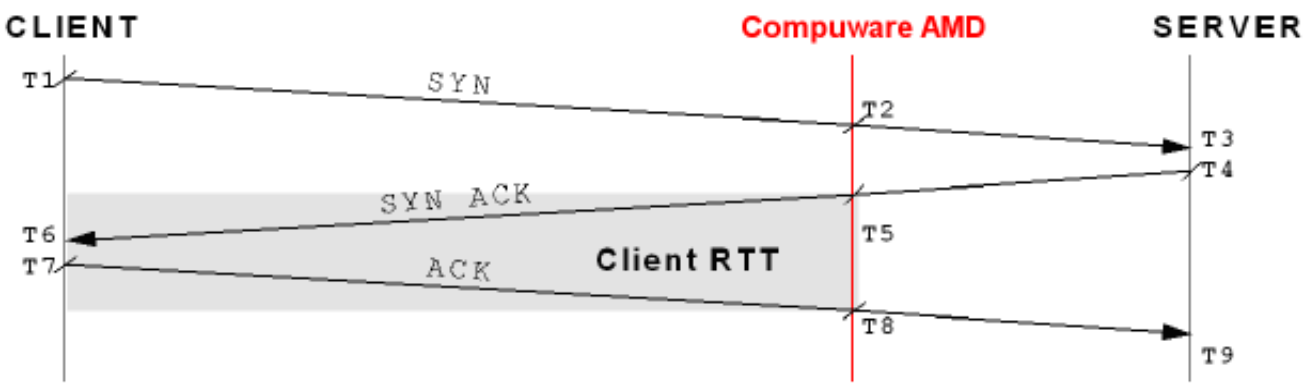
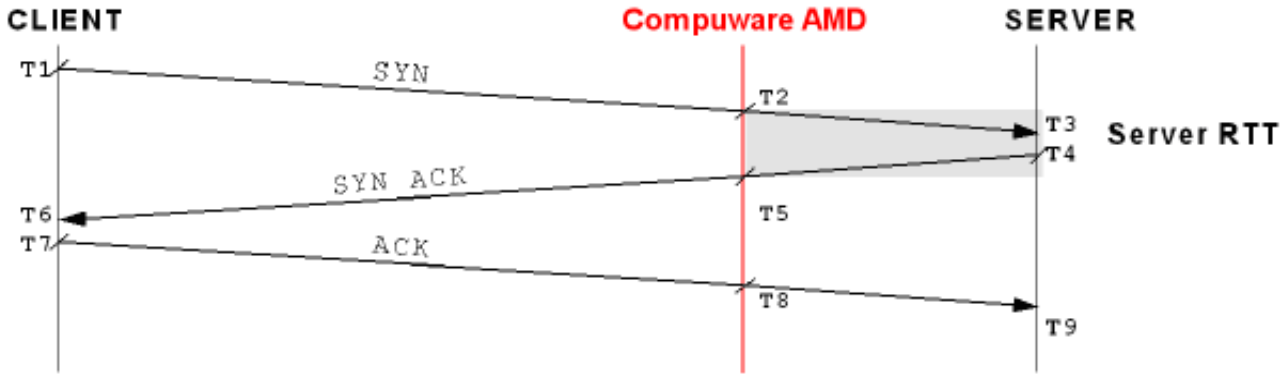


Figure B.2. Graphical representation of Server RTT



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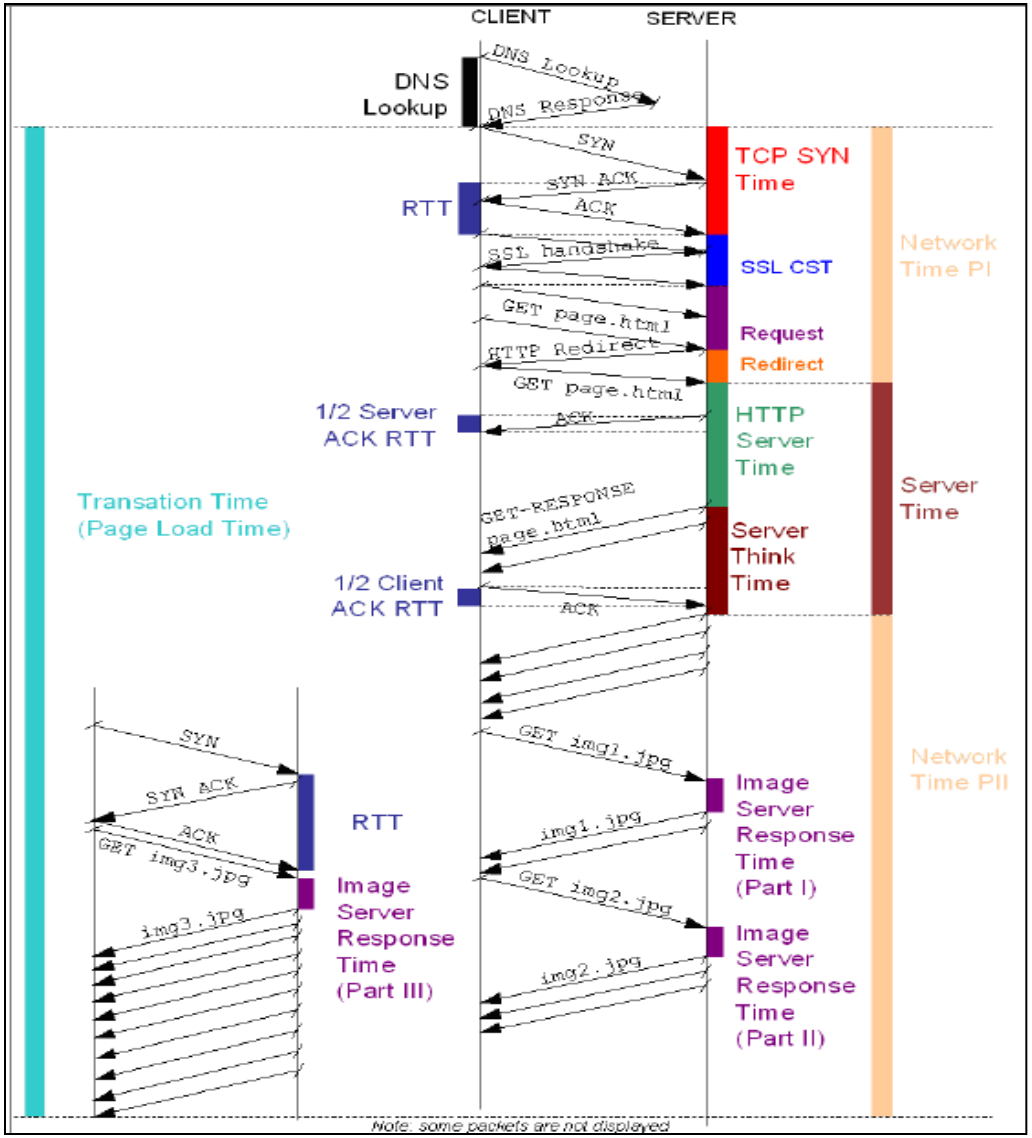
ClientVantage Agentless Monitoring

- Typical HTTP Session:



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- TCP Availability metrics
  - **Availability** - The percentage number of successful attempts, that is, the total number of attempts minus the number of failures, divided by the total number of attempts and multiplied by 100%.
  - **Connection Establishment Timeouts** – Number of TCP errors of category 'Connection establishment timeout errors'. This category of errors applies when there was no Connection establishment timeout errors response from the server to the SYN packet(s) transmitted by the client.
  - **Connection Refusals** – Number of TCP errors of category 'Connection refused errors'. This category of errors applies when the server rejects a request from the client to open a TCP session.
  - **Server Session Terminations** – The number of Server Session Termination errors. This category of errors applies when the server detects an error on the application level and closes the TCP session with a RESET packet.
  - **Host not Responding –** Applies when the client/server closes the TCP session with a RESET packet after one of them waits too long for a response.
  - **Idle Sessions** - The number of idle TCP sessions, that have not been active for a period of time longer than a predefined time-out time, 5 minutes by default.

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ClientVantage Agentless Monitoring

- HTTP Availability metrics:
  - **HTTP Availability** - The percentage number of successful hits, that is, the total number of hits minus the number of failures, divided by the total number of hits and multiplied by 100%
  - **HTTP Client Errors** - The number of observed HTTP client errors (4xx)
  - **HTTP Not Found Errors** - The number of observed HTTP 404 Not found errors
  - **HTTP Client Other Errors** - The number of observed HTTP client errors other than 401, 404 and 407
  - **HTTP Unauthorized Errors** - The number of observed HTTP 401 Unauthorized errors
  - **HTTP Server Errors** - The number of observed HTTP server errors (5xx)

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ClientVantage Agentless Monitoring

- Network Performance metrics:
  - **Ack Round Trip Time (aRTT)** - is the time it takes for an ACK packet to travel from the user to the AMD and back again.
  - **RTT -** is the time it takes for a SYN packet to travel from the user to the AMD and back again.
  - **Loss Rate (to client) -**The percentage of packets that were lost between the client and the AMD.
  - **Loss Rate (to server) -** The percentage of packets that were lost between the client and the AMD.
  - **Realized Bandwidth** - the actual transfer rate of data when the transfer attempt occurred, and takes into account factors such as loss rate (retransmissions). Thus, it is the size of an actual transfer divided by the transfer time.
  - **Request time** - The time it took the client to send the HTTP request to the server (for example, by means of an HTTP GET or HTTP POST). *Note: This time includes TCP connection setup time and SSL session setup time (if any). It starts when the client starts the TCP session on the server and ends when the server receives the whole request.*
  - **Delay** - Data transfer delay on a Data Center device, such as load balancer or firewall.

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ClientVantage Agentless Monitoring

- Application Performance metrics:
  - **Application Performance –** For transactional protocols, this is the percentage of application transactions completed in a time shorter than the performance threshold. For generic TCP protocols, this is the percentage of monitoring intervals in which user wait per kB of data was shorter than the threshold value.
  - **Transaction Time** – This is specific to the applications being monitored. HTTP analysis involves pages, DB (Oracle,SQL,DB2,etc) involves queries, XML involves messaging, and so on. For all of these the transaction time is the time to complete a unit of work.
  - **People Hours Lost (Performance, Errors, Availability) -** The total time clients waited for pages to load in excess of the application performance.
  - **Zero window size** - events One side, client or server, sets this in TCP header when it wants the other side to slow down with data transmission because it cannot Zero window size events keep up with the transmission speed. Indicates that receiving machine is busy with other tasks.

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- Application Performance metrics:
  - **Network time** - The time the network (between the user and the server) takes to deliver requests to the server and to deliver page information back to the user. In other words, Network time is the portion of Page load time that is due to the delivery time on the network. It is calculated as Transaction time minus Server time.
  - **Redirect time** - The average amount of time that was spent between the time when a user went to a particular URL and the time this user was redirected to another URL and issued a request to that new URL. The difference between Redirect Time and HTTP Redirect Time is that the former counts all transactions, while the latter refers only to those transactions for which redirection actually took place.
  - **Server Time** – The time it took the server to produce a response to a given request.
  - **Server Transaction Size** - The size of a server transaction. In HTTP and HTTPS (decrypted and non-decrypted), Server Transaction Size equals the Page Size.

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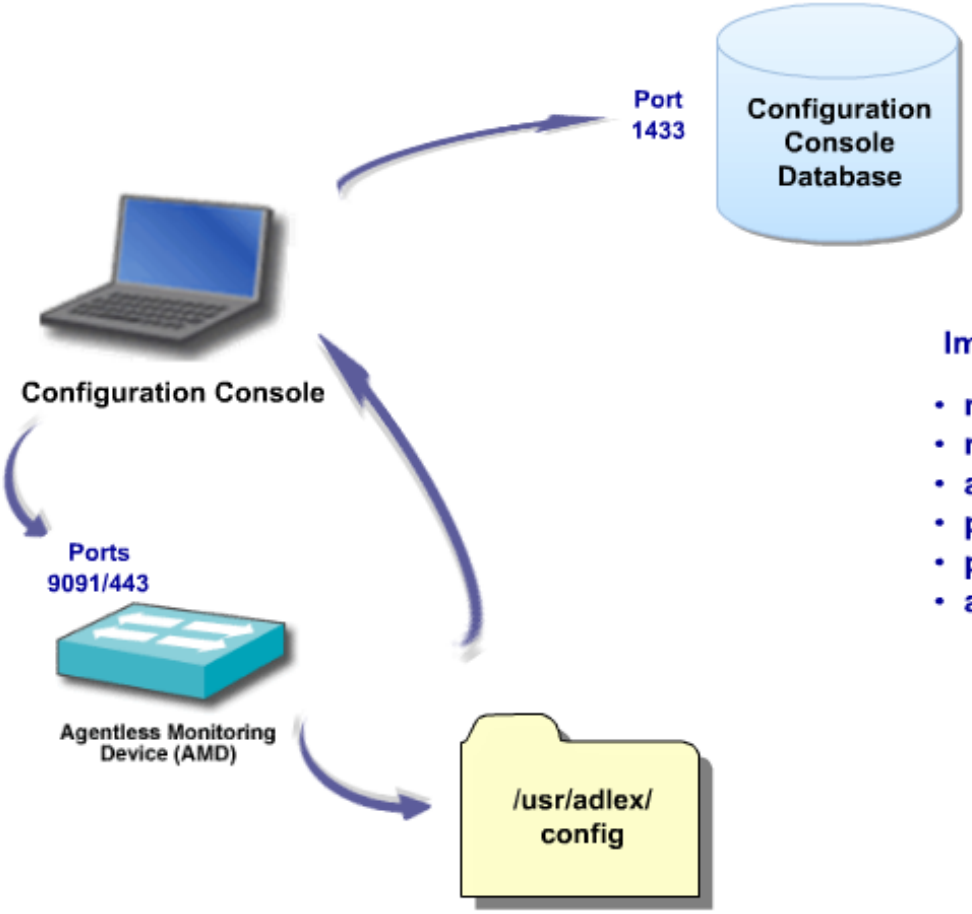
Traffic Flows

Real EUE Monitoring Configuration Flow



Important Configuration Files:

- rtm.config
- rtm.config defaults
- applications.xml
- page2trans.xml
- protocols.xml
- avagt.xml

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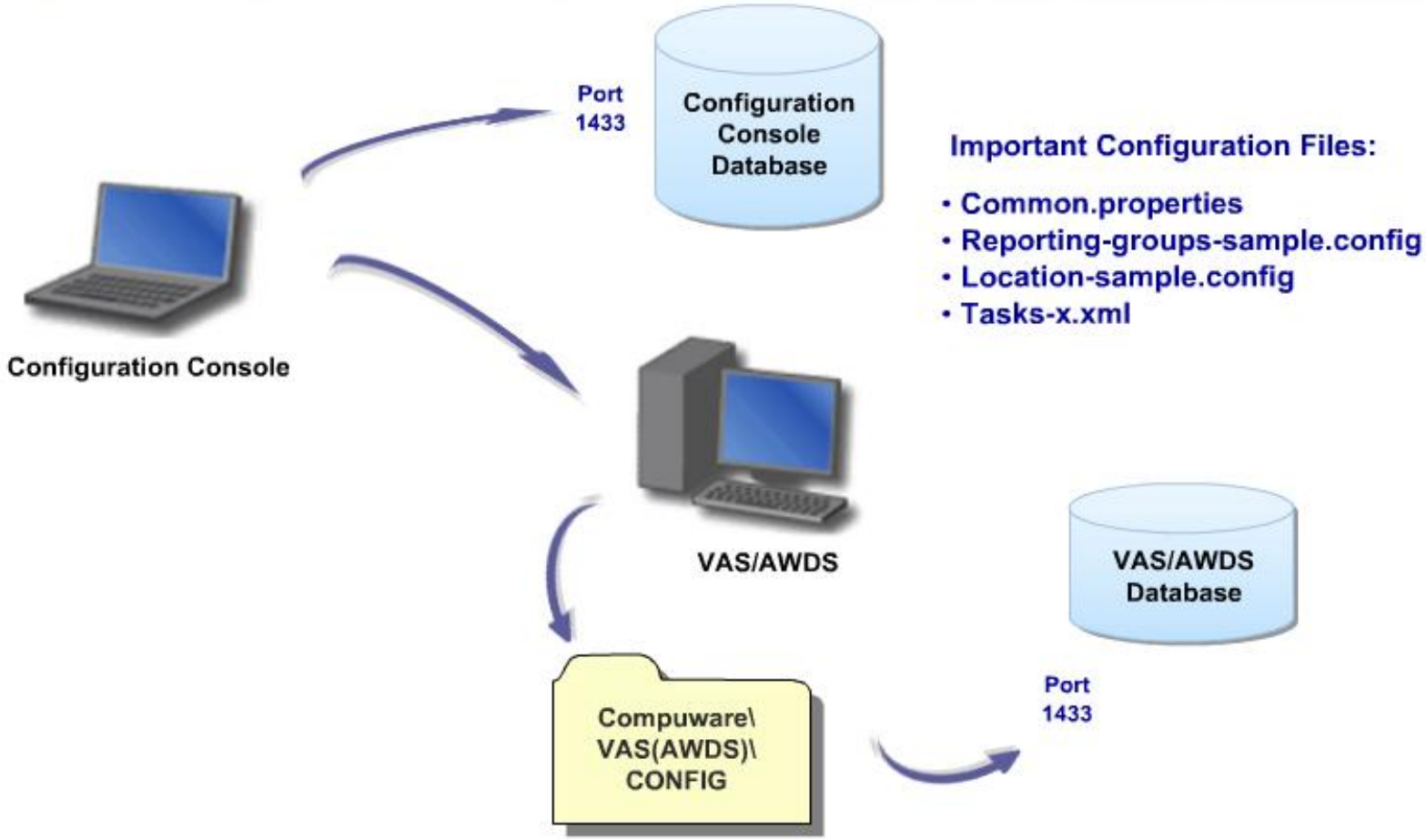
Traffic Flows

Real EUE Monitoring Configuration Flow



Important Configuration Files:

- Common.properties
- Reporting-groups-sample.config
- Location-sample.config
- Tasks-x.xml

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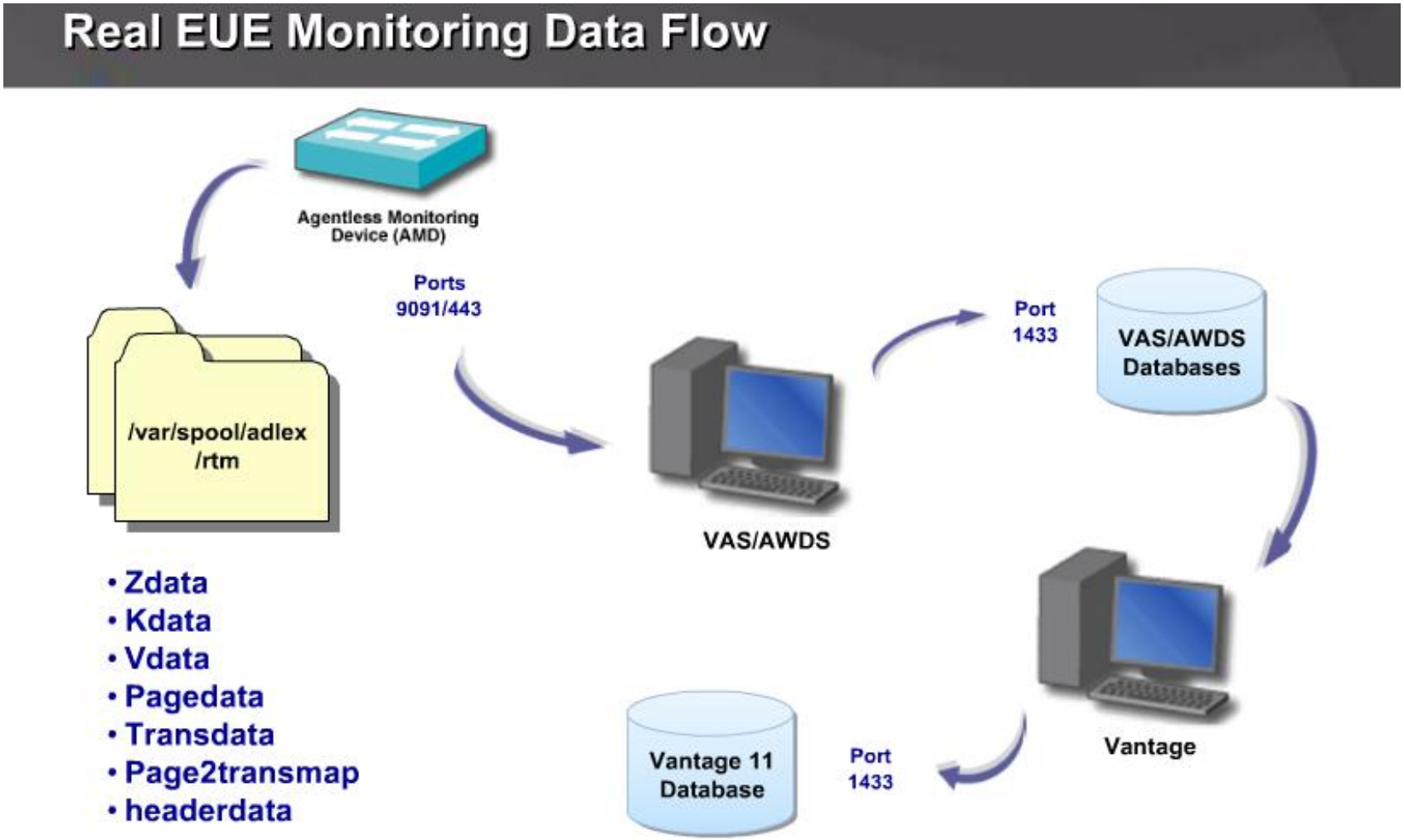
Traffic Flows



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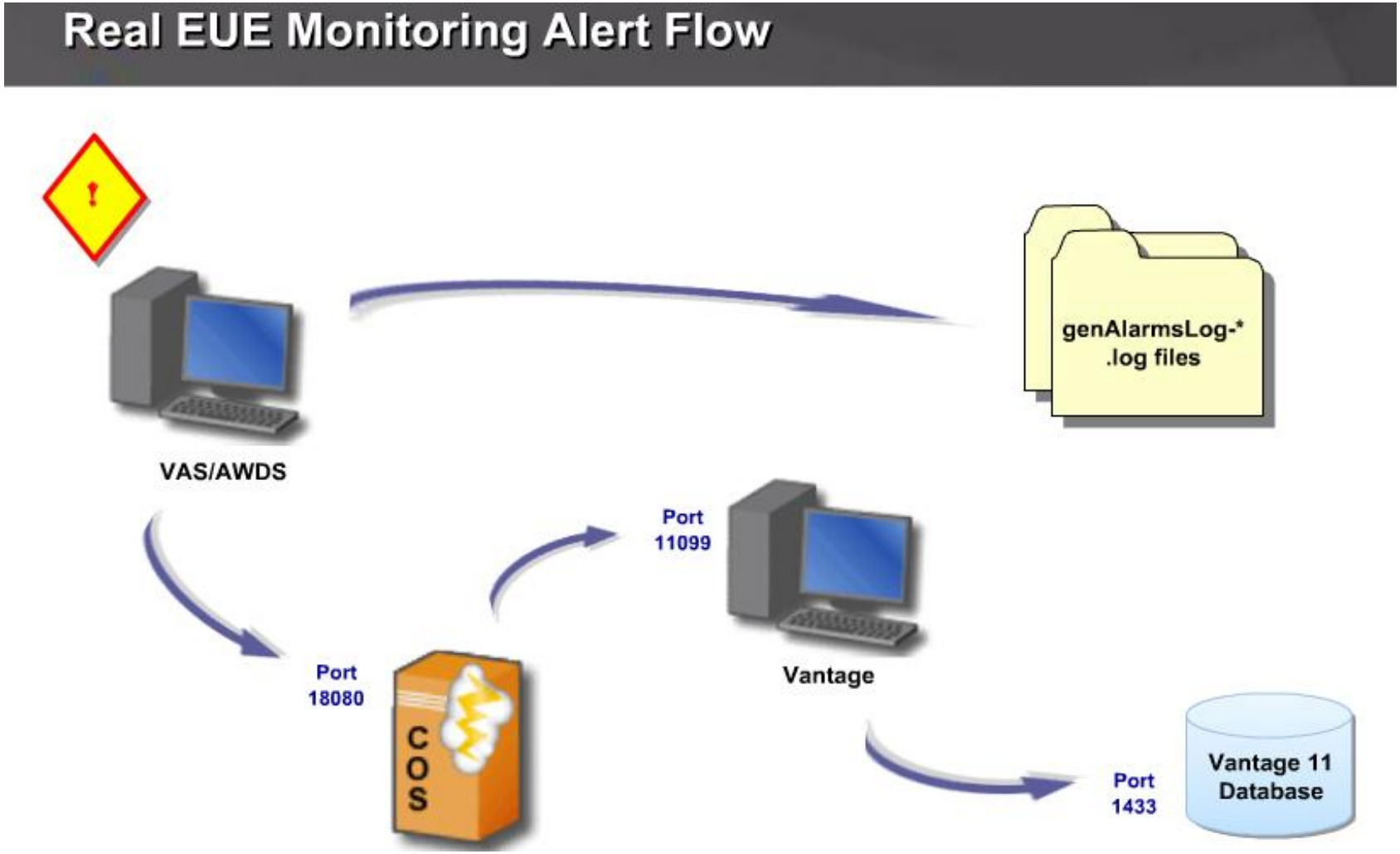
Traffic Flows



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Conclusion

Now that we have completed the course, you should be able to:

- Describe the purpose and function of the VAS & AWDS components of Vantage.
- Identify the core components of Vantage, and describe how the components may be deployed.
- Configure Vantage to collect and decode network traffic across an enterprise.
- Configure software services & application definitions within Vantage to provide monitoring for specific business functions.
- Configure Vantage to monitor network communications for defined conditions, and trigger alerts when criteria are violated.
- Analyze collected data using Data Mining Interface.
- Report on collected Data.

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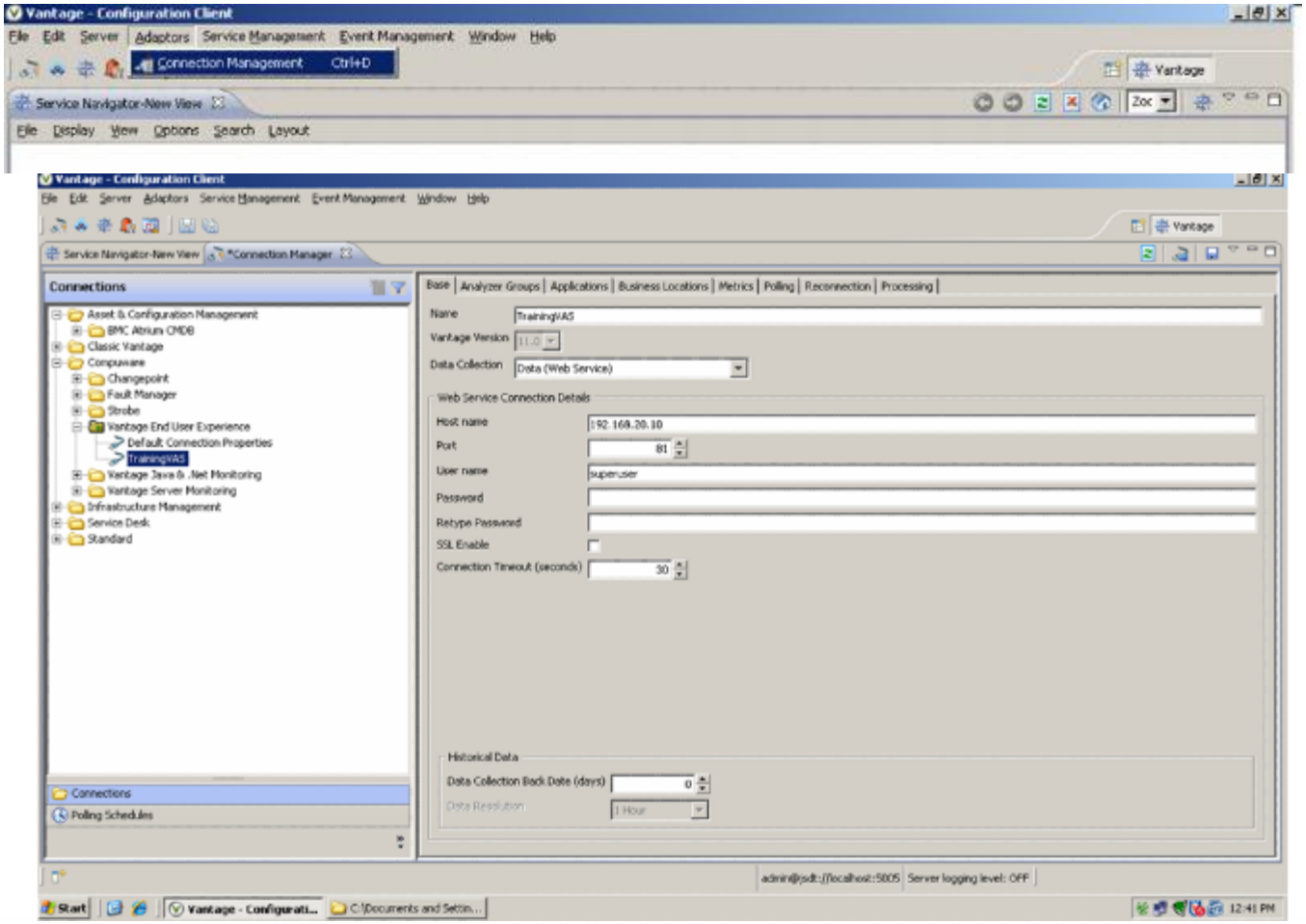
Install VSM

- Vm image exercise

How to access connection manager?



Exercise #4 – Configure Service Model

- Topics Covered:
  - How to add End User Experience Adaptor
  - How to add Transactions
  - How to add Locations
- Exercise Objectives:
  - Configure VAS for Service Model
  - Configure Transactions for the Service Model
  - Configure Locations for the Service Model
- Duration:
  - 20 minutes

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Configure the End User Experience Adaptor

Connection Management - Configuration Client [admin on localhost:5005]

File Edit Server Adaptors Service Model Templates Service Management Event Management Window Help

Connection Configuration

Connections

- Asset & Configuration Management
  - BMC Atrium CMDB
  - BMC Atrium CMDB 2.1
- Classic Vantage
- Compuware
  - Changepoint
  - Fault Manager
  - Strobe
  - Vantage End User Experience
    - Default Connection Properties
    - VAS
  - Vantage Java & .Net Monitoring
  - Vantage Server Monitoring
- Infrastructure Management
- Service Desk
- Standard

Connections
Polling Schedules

Base | Analyzer Groups | Applications | Business Locations | Metrics | Polling | Reconnection | Processing

Name: VAS
Vantage Version: 11.0
Data Collection: Data (Web Service)

Usually Data Only
Set IP – Port – Credentials
of VAS

Web Service Connection Details

Host name: 127.0.0.1
Port: 81
User name: superuser
Password:
Retype Password:
SSL Enable:
Connection Timeout (seconds): 30
EUEProcessingThreads: 1

Historical Data

Data Collection Back Date (days): 0
Data Resolution: 1 Hour

Test Connection

Connection Monitor

ID	Status	Type	Last Polled	Information
VAS	OPEN	EUEEventsSMT		CM038: Connection opened 2009/06/01 09:30:37

admin@jsdt://localhost:5005 | Listener queue : 0,SMT queue : 0

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Configure the Applications

Connection Management - Configuration Client [admin on localhost:

File Edit Server Adaptors Service Model Templates Service Management Event Management Window Help

*Connection Configuration

Connections

- Asset & Configuration Management
  - BMC Atrium CMDB
  - BMC Atrium CMDB 2.1
- Classic Vantage
- Compuware
  - Changepoint
  - Fault Manager
  - Strobe
  - Vantage End User Experience
    - Default Connection Properties
    - VAS
  - Vantage Java & .Net Monitoring
  - Vantage Server Monitoring
- Infrastructure Management
- Service Desk
- Standard

Connections
Polling Schedules

Base | Analyzer Groups | Applications | Business Locations | Metrics | Polling | Reconnection | Processing

All applications

Query finished!

- Config
  - MedRec
    - PatientLogin
    - PhysicianLogin
    - AdminLogin
  - Trade
    - TradeBuy
    - TradeLogin
    - TradeQuotes

Choose Your Applications or All Applications

Query for Applications

Poll for Software Service metrics for selected applications

Query | Clear

Connection Monitor

ID	Status	Type	Last Polled	Information
VAS	OPEN	EUEEventsSMT		

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Configure the Locations

Connection Management - Configuration Client [admin on localhost:5

File Edit Server Adaptors Service Model Templates Service Management Event Management Window Help

*Connection Configuration

Connections

- Asset & Configuration Management
  - BMC Atrium CMDB
  - BMC Atrium CMDB 2.1
- Classic Vantage
- Compuware
  - Changepoint
  - Fault Manager
  - Strobe
  - Vantage End User Experience
    - Default Connection Properties
    - VAS
  - Vantage Java & .Net Monitoring
  - Vantage Server Monitoring
- Infrastructure Management
- Service Desk
- Standard

Connections
Polling Schedules

Base | Analyzer Groups | Applications | Business Locations | Metrics | Polling | Reconnection | Processing

Business Location Level: Site Sort By: Site Name Direction: Ascending

All Business Locations

Site Name	Site Type
All other	Default
Detroit	Manual
Merrimack	Manual

How much detail do you want in the Service Model?

Selected: 2 (of 3)

Poll for network metrics for selected locations

Query | Select All | Invert Selection | Clear All

Connection Monitor

ID	Status	Type	Last Polled	Information
VAS	OPEN	EUEEventsSMT		

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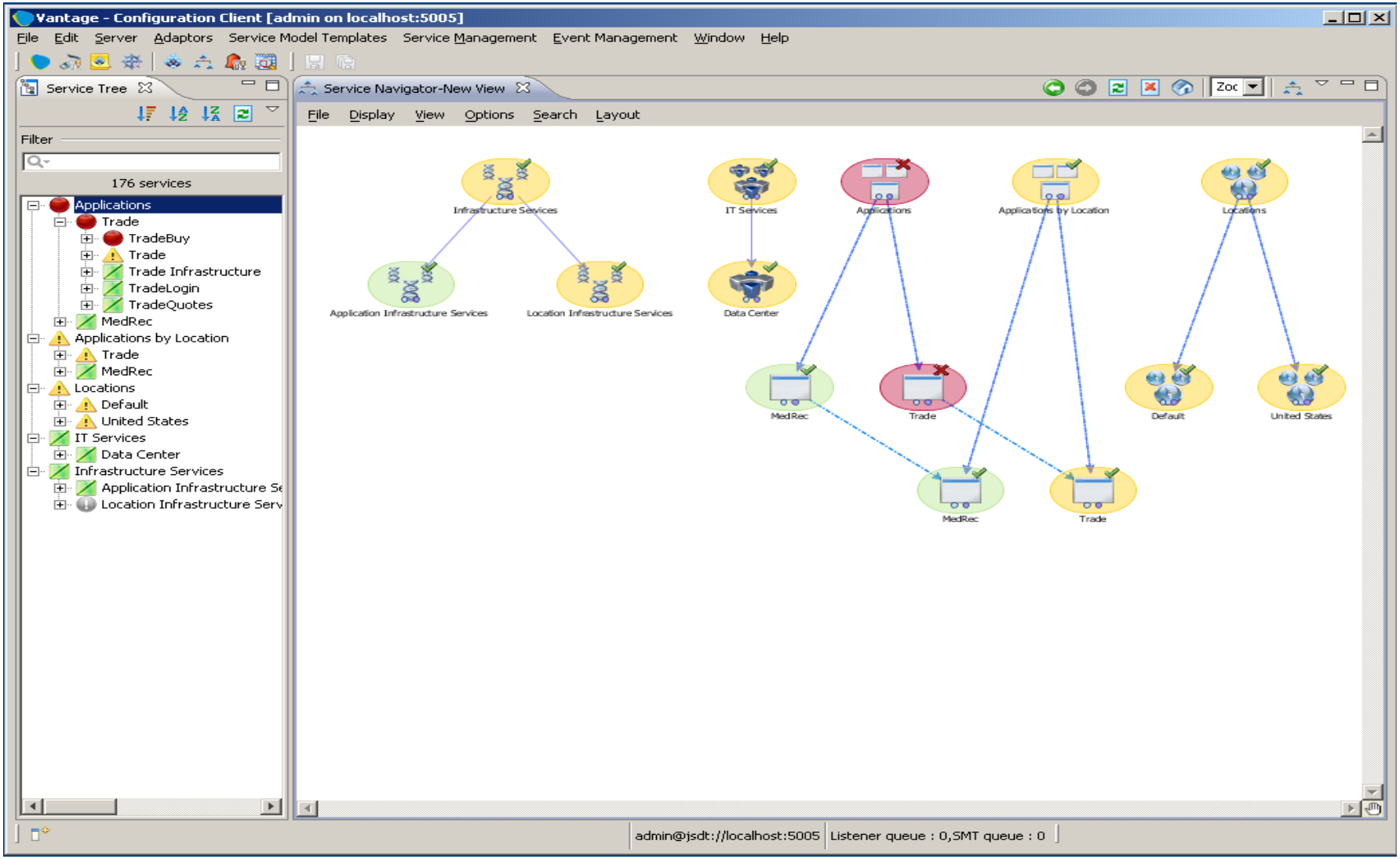
Service Model Gets Created



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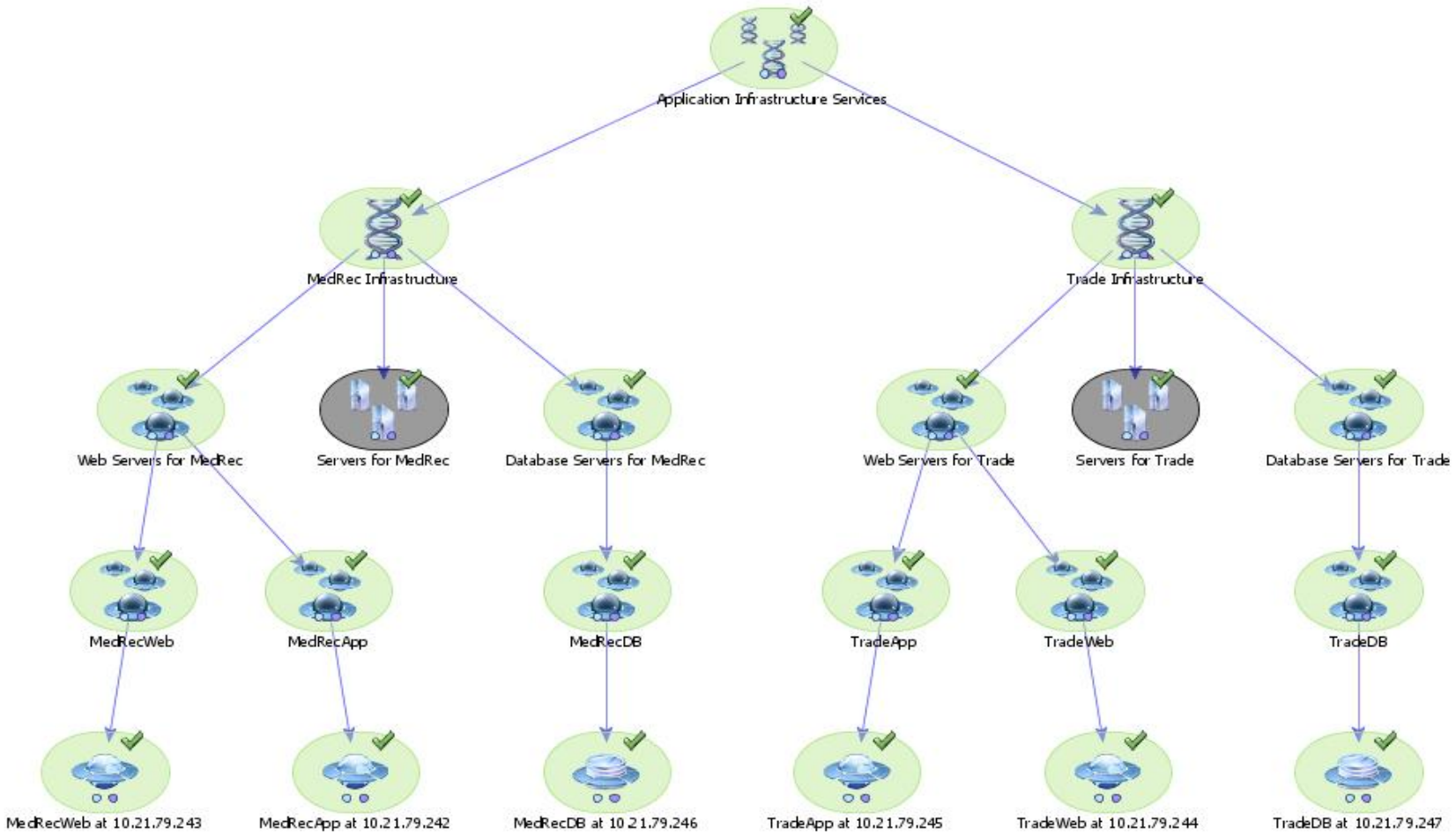
Infrastructure Too



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ClientVantage Agentless Monitoring

Dashboards will be built

Summary - Windows Internet Explorer

http://localhost:8080/centauri/MainServlet/Executive/Summary.html

Executive | Service Management | Operations

Impact | Improve | Scorecard | Summary | Trend

Executive Summary (Current)

Applications

Service Title	Service Quality			Calendar	Users		
	Current	Available	Monthly Trend		Affected	Overall	% Affected
Trade	Warning	✓		Peak	6	8	
MedRec	Normal	✓		Peak		6	

Display: Applications by Location | Applications by Transaction | Locations

Applications by Location

Service Availability (Last 24 hours)

99.37% 100% 100%

Service Quality

Excellent, Good, Normal, Warning, Unknown, Down

12:00 17:00 22:00 03:00 08:00

Affected Users

Trade 6

MedRec 0

0 7

User Availability (Last 24 hours)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

61.45%

User Downtime

User Downtime: 5.28h, 4.22h, 3.17h, 2.11h, 1.06h, 0s

12:00 17:00 22:00 03:00 08:00

Local intranet 100%

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ClientVantage Agentless Monitoring

And Even…

Summary - Windows Internet Explorer

http://localhost:8080/centauri/MainServlet/Operations/Summary.html

File Edit View Favorites Tools Help

Executive | Service Management | **Operations**

Details | Events | Map | Navigator | Status | **Summary** | Transactions

Operations Summary (Applications)

Sun May 31 2009 12:00 - Mon Jun 1 2009 12:00 (previous 24 Hours)

Applications

Service Title	Service Quality					Calendar	Users (Current)		
	Current	Duration	During Period	Available	Monthly Trend		Affected	Overall	% Affected
Trade	Warning	50m 31s				Peak	4	10	
MedRec						Peak		6	

Display: Applications | Locations | Infrastructure

Details
Unified Performance Analysis
Location performance summary for App
Area performance summary for App
Region performance summary for App
Transaction performance summary for App
End-user experience transactions for App
User performance summary for App

Locations

Service Title	Service Quality				
	Current	Duration	During Period	Available	Monthly Trend
Default	Warning	55m 37s			
United States	Warning	50m 32s			

Infrastructure

Service Title	Service Quality		Availability		MTBF	MTTR
	Current	Duration	Current	Overall		
Database Infrastructure	Normal	1h 49m		100.00%	7s	
Network Infrastructure	Normal	5m 23s		0.00%		
Software Infrastructure	Normal	1h 49m		100.00%	7s	
Servers	Unknown	1h 50m		100.00%	7s	

Local intranet 100%

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ClientVantage Agentless Monitoring

A UPA Report

Unified Performance Analysis - Windows Internet Explorer

http://localhost:8080/centauri/MainServlet/Operations/Unified%20Performance%20Analysis.html?ServerLineName=default&TreeTop_ID=Trade_ByLoc&SM_ID=Trade_Infrastructu

File Edit View Favorites Tools Help

Executive | Service Management | Operations

Details | Events | Map | Navigator | Status | Summary | Transactions

Unified Performance Analysis

Service Tree (Current)

- Trade
  - Default Trade Transactions
  - United States Trade Transactions
  - Trade Infrastructure

Sun May 31 2009 13:00 - Mon Jun 1 2009 13:00 (previous 24 Hours)

Unified Performance Analysis - Trade

Showing - 10 of 10 (Summary)

Show More | Show All

Detroit Trade Transactions - Real Performan... [PercentageSlowPages_RealTxn]

Merrimack Trade Transactions - Real Perfor... [PercentageSlowPages_RealTxn]

Detroit Trade Transactions - Errors [Aborts]

TradeDB - Performance [Performance]

TradeWeb - Performance [Performance]

TradeApp - Performance [Performance]

Merrimack Trade Transactions - Errors [Aborts]

Michigan Trade Transactions - Real Perform... [PercentageSlowPages_RealTxn]

New Hampshire Trade Transactions - Real P... [PercentageSlowPages_RealTxn]

Default Trade Transactions - Real Performa... [PercentageSlowPages_RealTxn]

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