



VMware ESX Server 2

Isolating Performance Problems

Troubleshooting performance problems is like solving a mystery.

The detective works with leads and witnesses to gather initial evidence and examines the evidence to find a solution. If a solution is not found, the detective gathers additional evidence and, through the process of elimination, sifts through the evidence until a solution is found.

The VMware Technical Support engineer works with customers to gather initial data and analyzes it to find an evident resolution. If a resolution is not found, the VMware Technical Support engineer gathers additional data from the customer and, through the process of elimination, sifts through the data layer by layer — performance problems may be found on the physical layer, the virtualization layer or the virtual machine layer — until the problem is resolved.

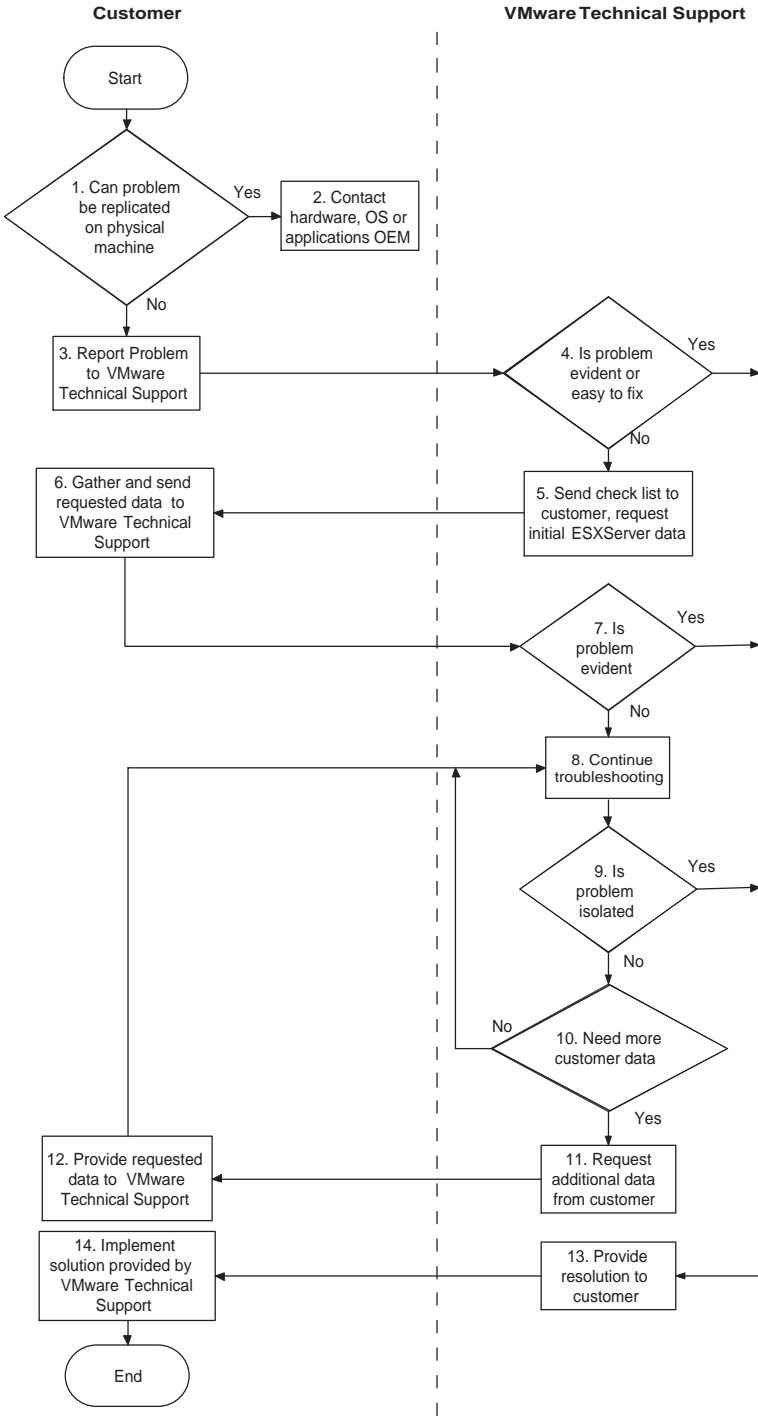
The following sections provide an overview of the process used to troubleshoot performance problems in the ESX Server environment:

- [Flowchart to Isolate and Resolve a Problem on page 2](#)
- [Process for Isolating and Resolving Performance Problems \[add text to introduce the table\] on page 3](#)



Flowchart to Isolate and Resolve a Problem

This flowchart outlines the necessary steps to isolate and resolve a problem.





Steps to Isolate and Resolve a Problem

This table describes the necessary steps to isolate and resolve a problem

Flowchart Task Number	Responsibility		Action
	Customer	VMware Technical Support	
1	✓		Determine if the problem can be replicated on a physical machine.
2	✓		Contact OEM if the problem can be replicated on a physical machine.
3	✓		Report the problem to VMware Technical Support if the problem cannot be replicated on a physical machine.
4		✓	Determine if the cause of the problem is evident. For example, set the variable <code>WORKLOAD=terminalservices</code> for Windows Terminal Services or Citrix Virtual Machine deployments.
13		✓	Provide resolution to the customer if the cause of the problem is evident.
5		✓	Send a check list requesting initial ESX Server machine data if the problem is not evident.
6	✓		Provide check list information to VMware Technical Support, including ESX Server machine data collected using the <code>vm-support</code> and <code>esxtop</code> programs.
7		✓	Determine if the cause of the problem is evident. Common causes include a) heavy SAN I/O when a large number of virtual machines access the same LUN concurrently and cause poor disk performance, b) too many virtual machines running in the same server and c) network I/O in which a large number of packets are dropped.
13		✓	Provide a resolution to the customer if the cause of the problem is evident.
8, 9, 10		✓	Continue the process of elimination until the cause of the problem is isolated or more data is required from the customer.
13		✓	Recommend a solution to the customer if the cause of the problem is isolated.
11		✓	Request additional data from the customer if the cause of problem is not isolated. Examples of such problems include when remote access to the ESX Server is in question or when you need a copy of the virtual machine with the performance problem.
12	✓		Provide additional data to VMware Technical Support per request.
8, 9		✓	Continue the process of elimination until the cause of the problem is isolated.
13		✓	Recommend a solution to the customer when the cause of the problem is isolated.
14	✓		Implement the solution.



Summary

Isolating performance problems is a collaborative effort in which the customer and the VMware Technical Support engineer collect data, examine each component of the data and, by the process of elimination, resolve the problem logically.