



IDENTIFY ISSUES BEFORE DEPLOYING THE AGENT

- Check the contents of the IP routing table.
- Test your Domain Name Service.
- Examines `nsswitch.conf`.
- Determine the computer's fully qualified domain name.
- Make sure the IP address of local NIC matches the IP for the computer returned by DNS.

Diagnose Your System's Health Before Installing the Likewise Agent

Overview

Likewise includes a shell script to check the health of a Linux, Unix, or Mac OS X computer on which you plan to install the Likewise Agent. The script helps you identify potential system configuration issues before you install the agent and join the computer to Active Directory.

The name of the script is `healthchk.sh`. To execute it, copy the script to the Unix, Linux, or Mac OS X computer that you want to check, and then execute the following command from the shell prompt:

```
healthchk.sh
```

The script outputs the results of its scan to `/tmp/healthchk.out`.

The table in this document lists each item the script checks, describes the item, and suggests action to correct the issue.

Technical Note

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Item Checked	Description	Corrective Action
Type of operating system	The operating system must be one of the platforms that Likewise supports. Supported platforms are listed later in this guide.	Install the agent on a computer that is running a supported operating system.
Hostname	Informational.	Not applicable.
Processor type	The processor type must be supported by the Likewise Agent. See the list of supported platforms later in this guide.	Install the agent on a computer with a supported processor.
Disk usage	Checks the disk space available to <code>/opt</code> (on Unix) or <code>/usr</code> (on Linux) to ensure that there is enough to install the agent and its accompanying packages.	Increase the amount of disk space available to <code>/opt</code> or <code>/usr</code> .
Contents of <code>/etc/*release</code> (for AIX, to determine the <code>oslevel</code>)	Displays the operating system and version number to ensure that they are supported by Likewise. See the list of supported platforms later in this guide.	Install the agent on a computer that is running a supported operating system and version.
Network interface and its status	Displays network interfaces and IP addresses to ensure that the system has network access.	Configure the computer so that it has network access and can communicate with the domain controller.
Contents of the IP routing table	To determine whether a single default gateway is defined for the computer.	<p>If the computer does not use a single default gateway, you must define a route to a single default gateway.</p> <p>For example, you can run the <code>route -n</code> to view the IP routing table and set a static route. For more information, see the man pages for your system.</p> <p>On Solaris, you may need to create or edit <code>/etc/defaultrouter</code>.</p> <p>On Linux, you can set the default gateway by running the network utility for your distribution.</p>

Item Checked	Description	Corrective Action
Connectivity to the default gateway	Pings the default gateway to ensure that the computer can connect to it. A connection to the default gateway is required.	Configure the computer and the network so that the computer can connect to the default gateway.
Contents of <code>nsswitch.conf</code> (or, for AIX, <code>netsvc.conf</code>)	Displays information about the <code>nsswitch</code> configuration.	<p>The <code>nsswitch.conf</code> file must contain the following line:</p> <pre>hosts: files dns</pre> <p>Computers running Solaris, in particular, may not contain this line in <code>nsswitch.conf</code>.</p>
FQDN	Determines the fully qualified domain name of the computer to ensure that it is set properly.	<p>Make sure the computer's FQDN is correct in <code>/etc/hosts</code>.</p> <p>You can determine the fully qualified domain name by executing the following command:</p> <pre>ping -c 1 `hostname`</pre> <p>When you execute this command, the computer looks up the primary host entry for its hostname. In most cases, it looks for its hostname in <code>/etc/hosts</code>, returning the first FQDN name on the same line. So, for the hostname <code>qaserver</code>, here's an example of a correct entry in <code>/etc/hosts</code>:</p> <pre>10.100.10.10 qaserver.corpqa.centeris.com qaserver</pre> <p>If, however, the entry in <code>/etc/hosts</code> incorrectly lists the hostname (or anything else) before the FQDN, the computer's FQDN becomes, using the malformed example below, <code>qaserver</code>:</p> <pre>10.100.10.10 qaserver qaserver.corpqa.centeris.com</pre> <p>If the host entry cannot be found in <code>/etc/hosts</code>, the computer looks for the results in DNS instead. This means that the computer must have a correct A record in DNS. If the DNS information is wrong and you cannot correct it, add an entry to <code>/etc/hosts</code>.</p>

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Item Checked	Description	Corrective Action
IP address of local NIC	Determines whether the IP address of the local network card matches the IP address returned by DNS for the computer. The IP address of the local NIC must match the IP address for the computer in DNS.	Either update DNS or change the local IP address so that the IP address of the local network card matches the IP address returned by DNS for the computer.
Contents of <code>resolv.conf</code>	Returns the address for the <code>nameserver</code> set in <code>resolv.conf</code> . The address of <code>nameserver</code> must point to a DNS server that can resolve the Active Directory domain name and return the SRV records for the domain controllers. The SRV record is a DNS resource record that is used to identify computers that host specific services. SRV resource records are used to locate domain controllers for Active Directory.	Compare against the results of the items checked next.
DNS query results for system (hostname and IP)	The IP address for the host name from DNS must match the IP address of the computer's local NIC.	Either update DNS or change the local IP address so that the IP address of the local network card matches the IP address returned by DNS for the computer.
DNS name resolution and connectivity to specified domain controller	Pings the domain name to get the IP address.	Correct <code>resolv.conf</code> so that the <code>nameserver</code> points to a DNS server that can resolve the Active Directory domain name -- typically the domain controller running DNS.
SRV records from DNS	Performs a DNS lookup for the SRV records to get the IP addresses for the domain controller.	Correct <code>resolv.conf</code> so that the <code>nameserver</code> points to a DNS server that can resolve the SRV records.
Connectivity to the Internet	Informational. Although connectivity to the Internet is optional, it makes it easier to download the installer for the agent installer.	Not applicable.

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Item Checked	Description	Corrective Action
Location and version information for sudo, openssl, bash, rpm, and ssh	Checks whether required utilities are installed and are in expected locations.	Likewise requires the following utilities: ssh and openssl. The other utilities are optional but may be useful.
Selected firewall settings (Kerberos, NetBIOS, and LDAP)	Tests whether the computer can connect to ports on the domain controller to make sure that a firewall will not block the computer's attempt to join the domain.	Reconfigure the firewall to allow the computer to access the domain controller.
Listing of files in /etc/pam.d	Lists other software that requires PAM.	Not applicable. Save this information for Likewise support staff in case they need to troubleshoot the installation.
Contents of selected pam files (pam.conf, common-auth, system-auth)	May reveal installation of other applications that are incompatible with the installer.	Not applicable. Save this information for Likewise support staff in case they need to troubleshoot the installation.
Contents of /etc/krb5.conf	Shows Kerberos 5 configuration.	Not applicable. Save this information for Likewise support staff in case they need to troubleshoot the installation.
DHCP	Checks whether DHCP is in use. When the Likewise Agent joins the computer to the domain, the agent restarts the computer. DHCP can then change the contents of /etc/resolv.conf, /etc/hosts, and other files, causing the computer to fail to join the domain.	Set the computer to a static IP address or configure DHCP so that it does not update such files as /etc/resolv.conf and /etc/hosts.
ISA type	Returns 32-bit or 64-bit information.	Use the installer for your ISA type.
Read-only filesystems	Checks whether /opt (for Unix) or /usr (for Linux) are not mounted as readonly.	Make sure that /usr or /opt are writable.
AIX TL levels	Determines the AIX TL level.	Not all TL levels are supported. For AIX, check with Likewise support to make sure that Likewise is compatible with the TL level you are using.

For More Information

For information about how to install Likewise 4.0, see the Likewise Installation Guide. For information about how to administer Likewise 4.0, including both the Likewise Management Console and the Likewise Agent, see the Likewise Administrator's Guide. Both documents are available at <http://www.likewise.com>.

Contact Technical Support

Please visit the Likewise support Web page at <http://www.likewise.com/support/>. You can use the support page to register for support, submit incidents, and receive direct technical assistance.

ABOUT LIKewise

Likewise® Software solutions improve management and interoperability of Windows, Linux, and UNIX systems with easy to use software for Linux administration and cross-platform identity management.

Likewise provides familiar Windows-based tools for system administrators to seamlessly integrate Linux and UNIX systems with Microsoft Active Directory. This enables companies running mixed networks to utilize existing Windows skills and resources, maximize the value of their Active Directory investment, strengthen the security of their network and lower the total cost of ownership of Linux servers.

Likewise Software is a Bellevue, WA-based software company funded by leading venture capital firms Ignition Partners, Intel Capital, and Trinity Ventures. Likewise has experienced management and engineering teams in place and is led by senior executives from leading technology companies such as Microsoft, F5 Networks, EMC and Mercury.