



## Agent vs Agent-less auditing

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BUILDING FAST, EFFICIENT  
& DYNAMIC AUDITS

As network discovery solutions have evolved over recent years, two distinct 'camps' have emerged; using client-based agents to collect hardware and software data or using an agent-less methodology.

On the surface, an agent-less solution sounds great. Who wouldn't want a solution that requires no client-side software? But it's not that simple. While an agent-less solution might work for a small organization wanting just a one-time 'snapshot' of its IT inventory, this approach runs into serious trouble when it comes to auditing more complex infrastructures or where it's necessary to maintain a comprehensive up-to-date inventory of all IT assets.

*As you will soon discover, the argument for using client agents is a strong one:*

### Performance & Scalability

While on networks of 100 PCs or less, the speed of an audit, together with the volume of data traffic generated, may not be a prime consideration, performance plays an increasingly important role the more PCs you need to audit and the faster you want to know about changes.

When it comes to building fast, network-friendly audits, not all solutions are created equal.

#### Local vs. remote scanning

Because agent-less solutions have no software at the client side, they rely entirely on commands and operating system calls generated directly from the central server and sent to the client via the corporate network. As this process is repeated for each and every audit command issued, it often results in hundreds of calls crossing the network per PC per audit, as each file on the hard disk is found, opened, scanned and reported back to the server (in fact, it's very similar to a desktop user searching for a file on a network drive - and we all know how slow that can be).

Centennial Discovery's client agents don't need constant prompts from the server. They normally run on a pre-defined schedule (on-demand audits can also be initiated as necessary from the control center) and locally select what data to report back to the server - dramatically reducing the network traffic during an audit.

This agent-based approach dramatically decreases the network bandwidth consumed by an audit, reduces the time it takes to conduct a full audit and minimizes the impact on business operations.

#### Further reducing audit data traffic

As well as carefully selecting what to report in the first place, Centennial Discovery uses a client-side data compressor to further reduce the size of audit reports by 40 to 60 percent.

In contrast, an agent-less solution has no way of compressing the data at the client end, forcing the full audit data packet to be transmitted across the corporate network every time an audit is conducted, wasting precious bandwidth.

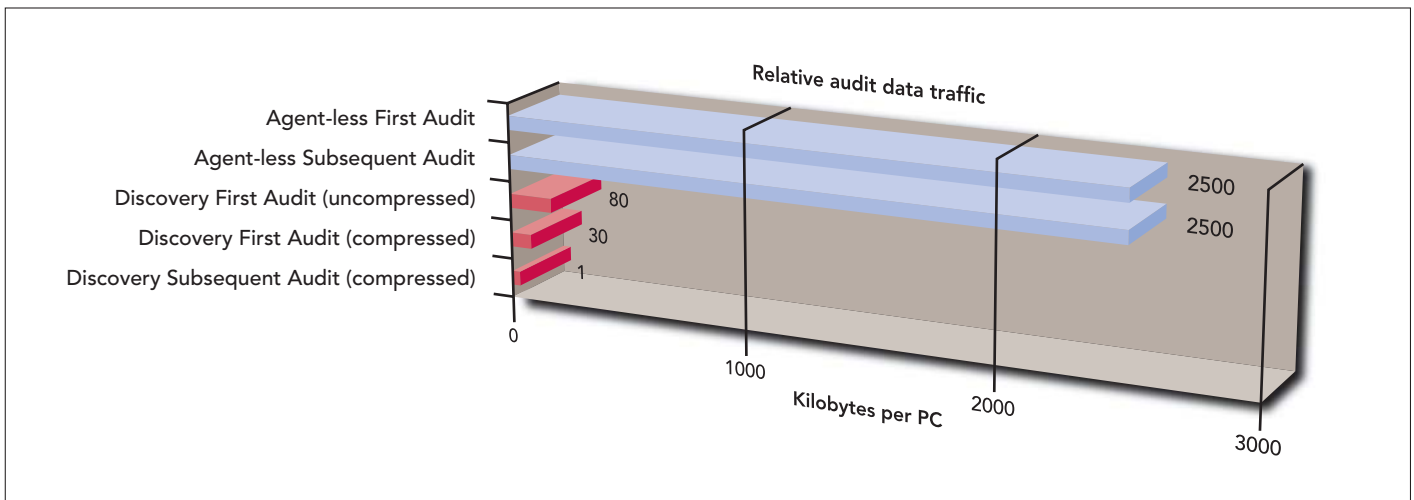
This means that the traffic generated by a first-time Centennial Discovery audit is often down to as little as 30Kb per PC, compared with more than 2.5Mb for most agent-less solutions.

#### 'Delta'-only reporting

As well as its inbuilt data compressor, Centennial Discovery again reduces the amount of audit data sent back to the control center on subsequent audits by only reporting the changes on a machine since the last audit.

By locally comparing the latest audit against the previous one, the client agent automatically 'strips out' any unchanged data and only reports on changes ('deltas') that occurred in between the two scans. The resulting network-friendly data packet is typically less than two kilobytes per machine.

An agent-less solution, in comparison, cannot compare audit information at the client, which means that a full report must be transmitted back to the Control Center every time an audit is conducted. With full reports typically no smaller than one megabyte in size, the impact on the network can be substantial.



### Client agent footprint

The number one selling point of agent-less discovery solutions is the lack of a client agent. Vendors of such solutions espouse the benefits of no client agent footprint, low memory demands and user transparency.

While these claims have some ground against other solutions where agents consume as much as 40 megabytes of disk space, with Centennial Discovery it simply isn't an issue.

The small footprint of the Centennial Discovery agent (typically just 1.5 Megabytes) combined with the fact that there is a 0% performance impact when the agent is not actively performing an audit means that you get all of the benefits of a client-based discovery solution with the same user transparency as an agent-less solution.

### When "agent-less" doesn't really mean agent-less

Some solutions that promote themselves as agent-less simply aren't. It is not uncommon to find a supposedly agent-less solution installing a temporary file (often in the form of an activeX control) on the client machine only to then remove it again after the audit has been performed.

The bandwidth overhead of this sort of pseudo agent-less approach is considerable, as the client-side file needs to be distributed to each PC every time an audit is run. It is also difficult to see what benefit is achieved by deleting a small client-side file just for the sake of claiming the solution is agent-less.

Another common scenario is for an agent-less solution to copy (but not install) a server-side .exe file to the PC. As well as offering an inferior quality of audit (this type of scan is usually run in 'user context', which means that any files inaccessible to the user are also hidden from the scan), this deployment method has a severe impact on the network as it effectively involves doing a complete agent deployment each and every time an audit is requested.

### Efficiency & Effectiveness

If you're going to the trouble of implementing a network discovery solution, you'll want to be sure it's always working in your favor. The ability to keep monitoring systems even when an audit is not being performed is a key benefit of advanced agent-based solutions.

### Autonomous monitoring

Unlike an agent-less solution, Centennial Discovery's client agents can keep a constant watch for changes in their local network segments - automatically discovering new PCs and other IP devices (network printers, switches, Servers etc.) as they are added or removed - and reporting back to the central server as configured by the administrator.

### Easy deployment

The suggestion that agent-less discovery solutions are easier to deploy in the first instance is often a myth. In reality, it is usually just as easy to 'push' a client agent to a machine on the network as it is to conduct a remote scan. Centennial Discovery supports multiple agent deployment mechanisms, enabling administrators to choose the method that best matches their needs and network set-up.

Whereas most agent-based audit products still require administrators to manually identify how many machines are on the network, Centennial Discovery's unique LANProbe technology automatically begins 'sniffing' the network for all IP devices as soon as just a single agent is deployed (giving administrators the 100% network visibility needed to ensure that all machines that need to be audited get an agent deployed to them).

An agent-less solution can even cause a doubling-up of effort, since it often requires one team to set up the necessary administrator rights on the network and another to actually perform the audit - **every time**.



## Complete audits

Just as collecting audit data quickly and with minimal user impact is important, so is knowing that the inventory information is as accurate and comprehensive as possible. However, there is often a gap between the quantity and quality of data collected by agent-based and agent-less solutions.

## Usage information

For many organizations, an IT discovery tool is purchased in order to provide peace of mind that the network is operating effectively and that it is appropriately resourced. As such, knowing how often hardware or software is used is almost as important as discovering it in the first place.

For an agent-less solution, with no permanent link back to the central server, this is an impossible task. This means that administrators will not have access to vital information to help determine current software compliance or scope future software and hardware purchases.

Centennial Discovery provides thorough usage information whether through direct access, Citrix or pure thin client.

## Deep dive vs 'snapshot'

While agent-less solutions may be adequate for creating a snapshot of a small network, one of the common criticisms of such solutions is that they do not provide a complete PC and software audit (most are not able to access bios or registry information).

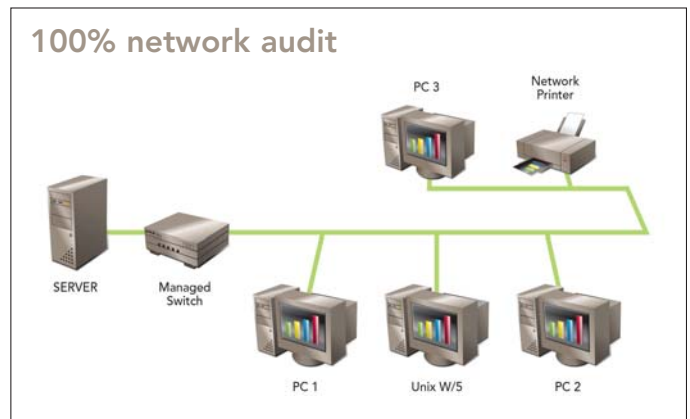
As an agent-less audit tool has no software sitting on the client machine, it is difficult for the product to collect the breadth and depth of data commonly collected by agent-based solutions like Centennial Discovery.

This detailed information can then be invaluable when it comes to using audit data to support other IT functions, such as analyzing the vulnerabilities of software or planning for mission-critical IT projects including OS migrations, hardware refreshes and application upgrades.

## 100% network audit

A common issue with many discovery tools is having confidence that the product has accurately identified and audited all PCs (and, if desired, other devices) on the network. With many solutions, both agent-based and agent-less, it is easy to simply 'miss' a machine or even a whole section of the network.

Thanks to its unique LANProbe technology, Centennial Discovery ensures that every IP-addressable device on the network is found (from PCs and servers to routers, switches and network printers). This ensures a 100% accurate inventory every time - regardless of whether or not the administrator knew about the IT asset prior to the audit.



## Auditing across a Public Network / Internet

With home and remote working now a common trend, many organizations use public network or internet connections to enable staff to access email or connect to the corporate network. But remote or not, if the machines being used by these employees are company property, then they will need to be included in any IT audit.

Which is where agent-less audit solutions fall short. Because of the way most networks are set-up, it is not possible to initiate a scan of a remote machine from the corporate network. It is possible to do it the other way round, but that requires some software at the client end - which means you need an agent-based solution!

## Security

Although not always an obvious factor when it comes to auditing, IT security is nonetheless critical to many organizations (especially if you are auditing across a public network - see above).

### Encrypted communications

Encrypting data communications usually requires specialized software at both the sending and receiving ends. As an agent-less product has no client-side software, securing the traffic between the client and the central server often isn't an option.

Centennial Discovery uses encryption based on the proven Blowfish algorithm to secure both audit reports and client agent deployments as well as ensure accurate client authentication.

### OS security

As agent-less discovery solutions have no client-side software of their own, they rely on whatever security is inherent in the network operating system - the flaws in which are often well-documented - to secure the transmission of data over the network.

### Administrator access

A second security failing of agent-less discovery solutions is that they normally require full administrator rights on each and every



PC and server every time an audit is performed. And as we discussed in 'Easy Deployment', that can lead to all sorts of organizational hassles.

## Conclusion

For all their claimed benefits, agent-less discovery solutions are really best suited to very small organizations who have no need or desire for regular and in-depth IT inventory information. As the

number of devices and frequency of audits rises, however, the agent-less solution begins to run in to trouble with incomplete audits, spiraling administrative costs, network inefficiencies and potentially-serious security implications.

For those organizations that need performance, reliability, dynamic updates and ease of use, agent-based solutions like Centennial Discovery offer medium and long-term benefits that simply cannot be matched by their agent-less counterparts.

## Centennial Discovery versus Agent-less solutions

	<i>Centennial Discovery</i>	<i>Agent-less solution</i>
<i>Performance</i>		
Selective audit reports	✓	✗
'Delta'-only reporting	✓	✗
Compressed Packets	✓	✗
<i>Efficiency</i>		
Autonomous monitoring	✓	✗
Once-only setup	✓	✗
<i>Complete audits</i>		
Usage information	✓	✗
'Deep-dive' auditing	✓	✗
Public Network auditing	✓	✗
<i>Security</i>		
Encrypted Communications	✓	✗
Administrator-less auditing	✓	✗
<i>Agent deployment</i>		
No client agent deployment	✗	✓

## About Centennial Software

With over four million licenses sold, Centennial Software is a leading supplier of network discovery solutions to global organizations. Centennial Software products proactively identify and monitor all hardware and software deployed throughout an organization, creating a clear and accurate global view of corporate IT resources and usage. Information provided by Centennial Discovery is crucial to supporting informed IT management decisions in business-critical areas such as license compliance, network planning and usage tracking. Centennial also offers seamless integration with complementary business applications such as helpdesk and software distribution systems.

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