IT@Intel Brief

**Intel Information Technology**

Computer Manufacturing

Client Support

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# Proactive PC Support Improves Service and Lowers TCO

As part of our online support strategy, Intel IT developed a self-service PC Health Check utility to deliver better customer support, improve response time, and increase employee satisfaction—while reducing operating costs.

PC Health Check empowers employees to quickly run a series of diagnostic tests and resolve problems without assistance from the Service Desk, saving time that was previously required from a service technician.

## Profile: PC Health Check

- Runs up to 46 diagnostic tests on a desktop or notebook PC.
- Streamlines diagnostics from 20 minutes to 30 seconds.
- Solves customer problems an average of 77% of the time.

PC Health Check demonstrates a new model for successful IT support delivery, yielding cost savings (shown in Figure 1) while reducing overall total cost of ownership (TCO). Usage initially increased about 8,000 percent, from 686 times in 2006 to 54,230 times in 2007. Current usage remains steady, and we plan to continue adding enhancements to increase employee satisfaction with IT support.

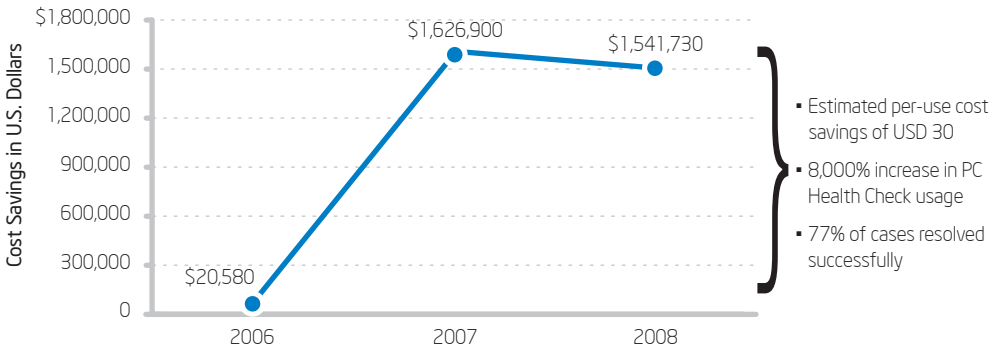


**Figure 1. PC Health Check reduces calls to the Service Desk, delivering an estimated per-use cost savings of USD 30.** Cost savings calculations based on 686 uses in 2006, 54,230 in 2007, and 51,391 in 2008.

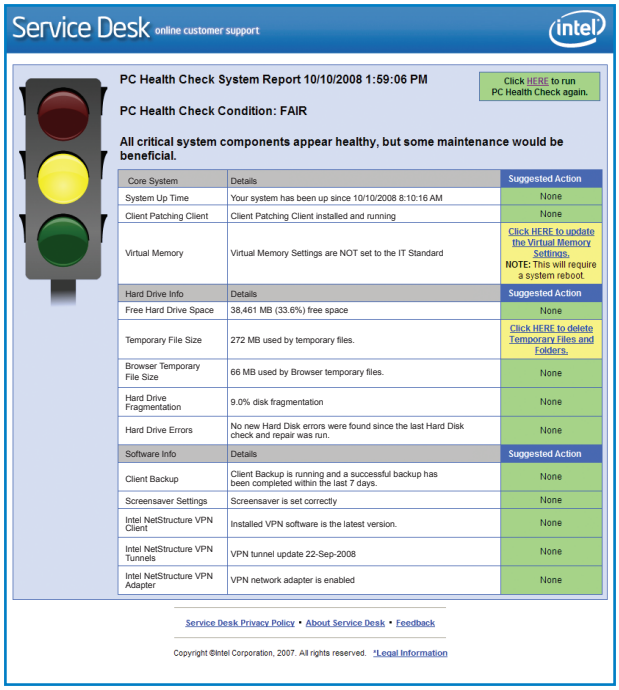


**Figure 2. PC Health Check system reports indicate the status of each test so users can take appropriate action.**

## Background

Like all large IT organizations, Intel IT constantly strives to deliver better support and reduce the cost of onsite service calls. In 2005, we started creating an automated tool for IT technicians that streamlined diagnostics for desktop and notebook PCs from 20 minutes to 30 seconds. The benefit we derived from this small investment quickly became apparent as we realized savings from lower service costs and increased productivity.

We also look for ways to empower employees so they can provide their own support, which leads to increased customer satisfaction, productivity, and mobility. Our experience has clearly demonstrated that when employees have a vested interest in the outcome, they are inclined to employ diagnostic tools and engage in solving their own problems.

Based on the success of our tool for IT technicians, we wanted to extend the benefits of automated diagnosis to our employees. We developed the PC Health Check utility, a robust toolset for direct control of PC problem resolution, to provide preventive maintenance for Intel PCs worldwide.

## Solution

We began developing PC Health Check by:

- Analyzing Service Desk tickets to identify recurring problems.
- Incorporating suggestions from IT technicians to determine priorities and which features would deliver the greatest impact for IT staff and employees.
- Identifying issues that would be immediately actionable by running PC Health Check.
- Capturing pertinent data for evaluation and potential incorporation in future enhancements.

This combined methodology paved the way for developing the right toolset to reach the broadest audience and increase productivity.

We determined that a user-friendly interface would be a critical factor in employee acceptance, so we created a simple, color-coded dashboard that makes it easy to run self-diagnostics and proactively address general PC health issues, as shown in Figure 2.

- **Red:** Critical issues must be fixed immediately.
- **Yellow:** PC health is fair.
- **Green:** User doesn't need to perform additional diagnostics.

Employees use the same tools and processes as support technicians. However, technicians have a more robust interface that displays additional information and levels of reporting, and they also have access to several diagnostic tools that are unavailable to employees. Our overarching goal is to make these tools accessible to everyone, providing more individual control and reducing calls to the Service Desk.

## Results

Now, PC Health Check provides up to 46 diagnostic tests that run in about 30 seconds. Table 1 outlines the tests that see the highest usage. We quickly saw bottom-line benefits due to savings associated with prevention, early problem detection, and decreased downtime.

When employees experience improved PC performance, they are inclined to use the diagnostic tools more frequently. They appreciate the increase in PC uptime that yields more productive time for them. Since the 2005 launch of PC Health Check, employees have performed over 216,000 health checks. PC Health Check usage increased almost 8,000 percent from 2006 to 2007 and remained steady in 2008, delivering higher performance and satisfaction to users worldwide.

In late 2006, a cost analysis demonstrated savings of USD 73,000 in technician time alone and an estimated overall cost savings of USD 1.2 million during that full operating year. To date, we have calculated net present value (NPV) of USD 2.6 million based on after-tax cost benefits.

Based on those constantly updated measurements, PC Health Check has delivered substantial benefits to both users and IT staff. The combined benefits of overall enhanced system performance, fewer and shorter periods of downtime, and reports of improved customer satisfaction all clearly demonstrate the success of PC Health Check.

## Next Steps

Future enhancements include running PC scans weekly or monthly so we can build solutions based on scanned attributes such as hard drive errors, stopped services, and battery state. We can avoid data loss or system failure by proactively targeting unhealthy systems through automated or technician action. Knowing in advance which systems are prone to failure will reduce emergency system builds or replacements.

These enhancements will yield better allocation of IT resources and reduce pressure on the Service Desk to deal with emergencies. We are also in the process of pushing fixes to clients automatically to save onsite technician time.

**Table 1. Highest Usage PC Health Check Diagnostic Tools**

| | |
|---|---|
| **Highest Usage Tests** | ▪ Verify recent and successful PC backup<br>▪ Check temporary file size and delete if necessary<br>▪ Repair virtual private network (VPN) virtual adapter<br>▪ Repair software distribution agent<br>▪ Repair compliance agent<br>▪ Update VPN version<br>▪ Review hard drive errors<br>▪ Check hard drive fragmentation<br>▪ Repair screen saver settings |

### Cost Savings Benefits

The benefits of PC Health Check include:

- Repurposing Service Desk staff for other issues and potential reduction in headcount.
- Improved service levels with fewer Service Desk calls.
- More uptime, yielding higher productivity and mobility for employees.
- Increased usage and customer satisfaction due to simple user interface.

In less time than it takes to contact the Service Desk and open a support ticket, users can run a full PC health check and perform steps to repair their systems without an IT technician.

To further improve support levels, Intel IT continues developing new diagnostic tools such as disk optimizer, blue screen analyzer, and startup analyzer; both analyzers are based on Microsoft tools to which we're adding functionality to help determine root causes.

For example, the blue screen analyzer addresses the infamous blue screen that doesn't allow users to see what the problem is. The tool provides a list of five root causes of blue screens that support technicians can act upon—such as updating or removing faulty drivers. The startup analyzer delivers a list of applications sorted by their impact on the hard drive during start up, making it easy to take action and resolve issues.

## Conclusion

Our self-service PC diagnostic utility yields tremendous benefits for employees and IT staff, bringing greater productivity and mobility to Intel employees and improved IT service levels delivered at a lower cost. Our results showing increased use of diagnostic tools from early adopters suggest that those with a vested interest in the health of their PCs are motivated to regularly use self-diagnostic tools.

With about 83 percent of Intel's global workforce using notebooks, these automated, self-help tools greatly simplify PC management and maintenance. Our investment in PC Health Check has quickly paid for itself, resulting in lower TCO for the rich clients our employees prefer.

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## Acronyms

| | |
|---|---|
| NPV | net present value |
| TCO | total cost of ownership |
| VPN | virtual private network |

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