CASE STUDY
2nd generation Intel® Core™ i5 vPro™ processor
Mobility in the Enterprise

Safety in numbers

Leading Turkish Telco turns to 2nd generation Intel® Core™ i5 vPro™ processors to galvanize security for large computer fleet

Türk Telekom Group is the leading communication convergence technology group in Turkey, providing integrated telecommunications services ranging from public switched telephone networks (PSTN) and a global system for mobile communication (GSM) to broadband Internet. The company has approximately 18,000 desktop and laptop PCs spread across the country in different locations. To control and manage this computer fleet, enable greater cost-efficiencies, and introduce more security, the IT department purchased a total of 9,000 Intel® Core™ processors with vPro™ technology. These included Intel® Core™2 Duo processors, 2nd generation Intel® Core™ i5 and i7 vPro™ processors[1]. These processors provide hardware-based remote management and security. The company plans to upgrade the remaining 9,000 computers with 2nd generation Intel Core i5 and i7 vPro processors.

TÜRK TELEKOM

Microsoft®

"Intel® vPro™ technology has provided us with powerful remote management capability that has transformed our ability to keep track of and manage our large computer fleet both in terms of cost efficiencies and management effectiveness."

Bilal Genç, Director,
Technological Systems Management,
Türk Telekom Group

CHALLENGES

- **Galvanize security:** Türk Telekom Group has 18,000 computers that need enhanced protection, particularly the laptop computers
- **Remote control:** Because of long distances between locations, the company needs remote management that can continue to function even if the operating system is down

SOLUTIONS

- **Phased security:** Türk Telekom Group began a phased roll-out of processors including Intel® vPro™ technology, which provides intelligent, hardware-assisted security
- **In the thousands:** First phase consisted of 9,000 computers powered by Intel Core 2 Duo processors with Intel vPro technology. The remaining 9,000 computers will be upgraded with 2nd generation Intel Core i5 and i7 vPro processors

IMPACT

- **Immediate benefits:** In one location, the company detected approximately 60 laptop computers that had previously been lost to IT admin control
- **Out of hours:** To date, about 5,000 computers have received 200 overnight software upgrades and security patches
- **Cost savings:** The company saved approximately EUR 30,500 in a 15-day period, reduced calls to the helpdesk by five percent and drastically cut down on the number of desk-side visits required

Casting a wide net

Türk Telekom Group has a nationwide network infrastructure used by companies within the group to deliver a wide range of telecommunication services to residential and corporate customers. These include services for small office/home office, small and medium-sized businesses, and large businesses and public sector organizations.

IT services for the company and its group companies are provided by a central IT operation. The organization has approximately 18,000 desktop and laptop PCs spread throughout the country. The IT department was struggling to manage and maintain this computer fleet.

For example, in one location, laptop users were overriding central administration control by implementing their own operating systems. The users were doing this so they could download the software they wanted and the operating systems they favored. As a result, the IT department would lose track of the laptops.

In another example, IT workers faced lengthy travel times to reach computers because of the long distances. They were sometimes hampered further by bad winter weather in Turkey's mountain regions. Since the company was entering into a new desktop PC and laptop refresh cycle, it decided to explore the remote management features of Intel vPro technology.

Embedded intelligence

Intel vPro technology offers intelligent, hardware-assisted security features that help organizations quickly deploy security patches across PCs, remotely unlock encrypted drives, and manage data security settings, even when the PC is switched off.

Testing the remote management capabilities of the Intel vPro technology revealed many potential benefits such as cutting down on travel time to distant locations to maintain the computers.

One clear benefit is the hardware-based remote management system. Unlike software agents designed to enable remote management, the hardware-based system continues to function if the operating system goes down. Software agents do not do this.

As a result, the company decided to introduce Intel vPro technology into its computer fleet which is comprised largely of computers from Acer, Fujitsu, Lenovo and HP all running Microsoft Windows* 7.

Thousands of computers upgraded during the night ensure ongoing productivity

Spotlight on Türk Telekom Group

Türk Telekom Group is the leading communication convergence technology group in Turkey, providing integrated telecommunications services ranging from public switched telephone networks (PSTN) and a global system for mobile communication (GSM) to broadband Internet. Within Turkey, as of 31 March 2011, Türk Telekom Group companies have 15.8 million fixed access lines, 6.7 million ADSL connections, and 11.8 million mobile subscribers.

Five thousand and counting

The initial implementation consisted of over 5,000 computers and was managed via the Microsoft System Center Configuration Manager 2007 R3 (Microsoft SCCM 2007 R3*). The aim was to use the management platform which was used for patch management, software deployment, asset inventory, operating systems deployment, Intel vPro technology integration and power management.

Mehmet Uner, data center solutions sales professional, Microsoft, said: "This was a large project for Türk Telekom to take on internally so the company needed a management platform it could rely on. It had already used previous versions of Microsoft SCCM and based on its experience of this technology opted for the Microsoft SCCM 2007 R3 platform as the management platform for Intel vPro processor technology."

The benefits were almost immediate. At the location where the laptops had been disconnected from central administration, the company used the remote management functionality of Intel vPro technology integration to scan networks within a given IP address range. It discovered 70 laptops that had been disconnected from central administration.

In the following round of computer upgrades, the company implemented the Intel Core i5 vPro processor, the next generation of the Intel Core 2 Duo processor with vPro technology. This provided the same remote management features, but also included new features such as Keyboard-Video-Mouse (KVM) Remote Control[2].

KVM Remote Control allows IT to see what the end users see on their screens – reliably, through all states, and even beyond firewalls. Yıldıray Atay, manager of distributed client systems for Türk Telekom Group, said: "This allows us to get a good view of what is happening on the computer, so we can see exactly what the user can see. It's very helpful in determining the precise nature of a problem."

Remote control

The remote management ability has proven extremely valuable for remotely diagnosing and repairing computers. It can also remotely power up and power down computers.

The implementation of Intel Core vPro processors is one of the largest IT projects carried out by Türk Telekom. For example, CRM applications needed to be deployed on the PCs. Utilizing the Intel vPro technology remote power-up feature 4,750 PCs were restarted every night for 15 days to deploy the necessary policies. This project led to an approximately TRY 70,000 [EUR 30,500] gain for the 15-day period by obviating the need for problem prevention during the day.

Within Türk Telekom the success of asset inventory has traditionally been dependent on installed operating systems, installed management tools and systems that are powered on. However, given that users often re-installed operating systems on their clients without informing the client maintenance team, computers can end up lost because the clients drop off the client scans.

To counter, the IT client management team used Intel® AMT Developer Toolkit (Intel® AMT DTK) to discover PCs that had Intel vPro technology but could not be located. This included PCs that had operating systems reinstalled or were not members of the Microsoft domain. This free Intel vPro technology tool also helped the team collect hardware inventories, verify service tags and check hardware configurations without interrupting the end user or visiting the desk side.

Fewer helpdesk calls

By using the remote serial-over-LAN and IDE Redirection of Intel vPro processor technology, the company was also able to assign BIOS passwords to every PC to prevent users from performing an action on BIOS. The Türk Telekom team was also able to increase end-user productivity and reduce calls to the service desk by five percent by using remote KVM functionality, which enables them to remotely diagnose problems without needing to rely on a functioning operating system and network drivers.

In a three-month period at the beginning of 2011, 29 large-scale applications like Office 2007*, LYNC* and FIM*, were installed out of working hours by using Intel vPro technology minimizing network performance issues. Also between January and February 2011, 184 patch updates were remotely applied outside of working hours. This also included patch pre-testing and led to maximized up-time for end-users and minimized network overhead.

For the remaining 9,000 computers, which include 6,000 desktop PCs and 3,000 laptop computers, Türk Telekom will implement the 2nd generation Intel Core i5and i7 vPro processors. Besides hugely increased processing power, these next-generation processors also include optional Intel® Anti-Theft Technology[3] (Intel® AT). Intel AT-enabled laptops can disable themselves if they get lost or stolen. When the laptop is recovered, it can be easily re-activated and return to normal operation. Türk Telekom is considering using Intel AT for the future.

Türk Telekom activated Intel® Active Management Technology[4] (Intel® AMT), the hardware-based technology that enables out-of-band remote management, through its own IT personnel. The company also made extensive use of policy settings within Intel vPro technology that allowed it to set parameters around users online behavior and group policies, particularly around Internet browser use.

By utilizing Microsoft SCCM 2007 in conjunction with Intel vPro technology, Türk Telekom garnered a wide range of benefits. These included software standardization for PCs in compliance with ISO 27001, controlled deployment of operating systems, greater security, more efficient management of PC refresh cycle, non-office hours software and patch deployment, a decrease in on-site PC problem solving, and PC power savings.

Seyfettin Nasli, computer management engineer, Türk Telekom Group, said: "Intel vPro technology has provided us with powerful remote management capability that has transformed our ability to keep track of and manage our large computer fleet, both in terms of cost efficiencies and management effectiveness. It's one of the largest IT projects Türk Telekom has undertaken in-house and to date it has been a great success."

[1] Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more visit: http://www.intel.com/technology/vpro

[2] KVM Remote Control (Keyboard Video Mouse) is only available with dual-core Intel® Core™ i5 vPro™ processors and i7 vPro™ processors with Intel® Active Management technology activated and configured and with integrated graphics active. Discrete graphics are not supported.

[3] No computer system can provide absolute security under all conditions. Requires an enabled chipset, BIOS, firmware and software and a subscription with a capable Service Provider. Consult your system manufacturer and Service Provider for availability and functionality. Intel assumes no liability for lost or stolen data and/or systems or any other damages resulting thereof. For more information, visit http://www.intel.com/go/anti-theft

[4] Intel® Active Management Technology (Intel® AMT) requires the platform to have an Intel® AMT-enabled chipset, network hardware and software, as well as connection with a power source and a corporate network connection. With regards to notebooks, Intel AMT may not be available or certain capabilities may be limited over a host OS-based VPN or when connecting wirelessly, on battery power, sleeping, hibernating or powered off. For more information, see http://www.intel.com/technology/manage/iamt

Data, results, and estimated improvements reported in this study are based on an evaluation of prototype Intel Centrino Pro processor technology equipment. Actual improvements in a production environment might vary. Other companies may see different results, depending on their IT service environment.

Intel does not control or audit the design or implementation of third party benchmarks referenced in this document

*Other names and brands may be claimed as the property of others.

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