



Case Study

Intel® Active Management

Technology

Government

Transportation Industry

Remote Management

Managing PCs Remotely

Intel® Active Management Technology helps Lanzhou Railway Bureau reduce IT maintenance costs by up to 50** percent

Lanzhou Railway Bureau, one of eighteen railway Bureaus in China, manages 9,800 computers along 2,793 kilometers of railway, operating critical systems such as goods delivery and ticket sales. Any hardware or software problem that occurs can have a detrimental effect to the Bureau's operations. The Bureau needed an effective way to ensure smooth and reliable computing operations.

Lanzhou Railway Bureau

"Intel® Active Management Technology provides a reliable way for us to remotely manage and maintain our railway information system."

Shao Jianhua
Information and Technology
Division
Lanzhou Railway Bureau

Challenge

- **Reducing computer downtime.** Lanzhou Railway Bureau needed to improve PC operations by reducing downtime as much as possible.
- **Managing remote resources effectively.** The Bureau had no effective means to manage distributed IT assets.
- **Maintaining unified application updates.** The Bureau was unable to update applications and anti-virus utilities on remote clients in a unified way.

Solution

- **Upgrading the IT core.** Updating to an IT management model based on Intel® Active Management Technology (Intel® AMT).
- **Enabling Intel AMT on PC platform.** Enabling Intel AMT on server and PC platforms throughout the bureau, including the IT control center to allow remote manageability of all IT assets.

Assessing the Situation

Lanzhou Railway Bureau began utilizing information technology applications in 1978 to run its railway operations. It established both wide area networks (WAN) and local area networks (LAN) which together with the Bureau's PCs, allowing will make it more active to run various programs to manage railway operations management and transportation applications. These 9,800 PCs, spread across the entire railway system, run critical tasks such as goods management and ticket sales. For the railway system to operate efficiently, it is essential for the PCs to operate without interruption. Any PC failure could potentially result in delays in goods deliveries, train schedule confusion and ticket sales interruption. "The staff in the offices where the PCs are located do not have the technical expertise to troubleshoot computer problems should they occur. This can lead to the disruption of our Transport Management Information System (TMIS)," says Shao Jianhua of Lanzhou Railway Bureau's Information Technology Department.



Intel® Active Management Technology helps the Lanzhou Railway Bureau increase the operational efficiency of its information system.

With a large number of stations it is very costly to have trained technical support staff allocated to every station. To decrease costs, the Bureau established maintenance stations around the province and regions. If any of the 9,800 computers develop a problem, technical support staff from the closest maintenance station would diagnose and investigate the problem first by telephone, then follow up with a trip to the affected station to fix the PC. However, this method was time consuming, and depending on the severity of the PC problem, any delay in repair would adversely affect the running of the station.

Another area of concern the Bureau had was how to manage its IT resources efficiently. There were already 9,800 PCs in use and the number was growing to handle the increasing volume of business. Additionally, the Bureau was adding more PCs in its plan to automate more of the company's work processes. Tracking and managing these IT resources was done manually, which was time-consuming. The Bureau discovered manually accounting for IT assets was a tremendous challenge. Tedious and prone to errors, the work became even more complex when it came to recording and managing component changes caused by computer failures.

Spotlight: Lanzhou Railway Bureau

- Founded in 1956, Lanzhou Railway Bureau currently has more than 80,000 employees.
- Lanzhou Railway Bureau is the largest transportation enterprise in Northwest China.

"With the increasing number of IT assets we have, maintaining the PCs manually is a slow and complicated job," says Shao. Lanzhou Railway Bureau needed more effective ways to reduce failure recovery time of its PC assets.

Additional challenges included updating, maintaining and managing software patches, anti-virus updates, and other related software. Directing end users to handle maintenance tasks was not acceptable as things can go wrong during software installation. As Shao explains, "When we need to simply update virus definitions, problems of one kind or another would result even though all it required was clicking the mouse. And, lacking an effective means of monitoring all the PCs, we are unable to ensure that every computer has been updated in accordance with our requirements."

Delivering the Solution

In early October 2005, with strong support from Intel, Lanzhou Railway Bureau worked with LANDesk* and Founder Group* to deploy and test a remote management system based on Intel AMT. Two Founder Junyi* M-500 computers were deployed at the Bureau's Network Management Center. One computer was used to run LANDesk* management software and the other was deployed as a local client. Another Founder Junyi M-500 computer running the Bureau's Train Station, a sub-system of Transportation Management Information System (TMIS), was installed at Tianshui Station, 348 kilometers away from the Center. These Intel AMT-enabled computers connected through the Bureau's internal optical fiber network. The trial test



"When computers that are utilizing Intel® Active Management Technology fail, our technical staff can start fixing the problem without having to go onsite, significantly reducing failure recovery time."

Shao Jianhua
Information Technology
Department
Lanzhou Railway Bureau



“We can manage our IT assets in a centralized way at anytime to perform comparison and accounting, without having to go onsite.”

Shao Jianhua
Information Technology
Department
Lanzhou Railway Bureau

proved the Bureau could achieve its goal of remotely controlling, managing, and maintaining computers at Tianshui Station, from the Bureau’s Network Management Center.

When computers at Tianshui station fail, a failure alert is automatically sent to the Bureau’s Network Management Center. Technical staff can log on to a PC console enabled with Intel AMT from the Control Center using an authorized account and password to obtain detailed configuration information on the effected computer. By selecting the computer via the console, technicians can directly control computers, detect and fix failures, and reboot problem computers. Although the remote computers may be powered off, technical staff at the Network Management Center can remotely reboot and control them to fix failures as long as the machines are connected to the power supply and network. Complete failure and maintenance logs are created at the center for future review and reference. Utilizing this approach, the Bureau can reduce the time required to diagnose and investigate problems by telephone, and eliminate travel time for onsite recovery work. The Bureau estimated this reduces failure recovery time by up to 60**

percent, and enables savings of up to 50** percent on travel and maintenance costs.

The remote management approach also allows the Network Management Center to develop better policies for updating applications and virus definitions, and to uniformly perform these operations by using local devices such as CD-ROMs, without awareness of the remote clients. Technical staff does not need to go onsite as they can remotely deploy software patches, anti-virus software, monitor computer status, functionality and more from their control center.

Additionally, the new system replaces the Bureau’s previous manual method of IT asset accounting. The asset accounting application modules from LANDesk make use of the standard Application Programming Interface (API) offered by Intel Active Management Technology. This enables the Bureau to quickly obtain detailed specifications and statistics of all the networked PCs, allowing the Network Management Center to have instant, up-to-date information on the status and inventory of the entire Bureau’s networked PCs, no matter where they are located on the railway system.

Key Technologies

- Integration of Intel® Active Management Technology (Intel® AMT) to computer motherboard.
- Intel AMT offers an Application Programming Interface (API) based on industry standards.
- Intel AMT supports secure authentication based on industry security standards.

Integral Answers

- As long as the Intel AMT-enabled remote computers are connected to the power supply and network, the Bureau can manage platforms and retrieve information regardless of the platform’s state.
- With management software developed by LANDesk* that makes use of Intel AMT features through the API, the Bureau can take advantage of enhanced platform management capabilities.
- Intel AMT includes tamper-resistant manageability that prevents users from removing the manageability features, and reduces the risk of unauthorized access to Intel AMT-enabled PCs.

Shao says, "Intel Active Management Technology makes this work possible, including logging and reporting of relevant events. It has met our requirements better than we anticipated."

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Return on Investment

- Intel® Active Management Technology enables the Bureau to view up-to-date listings of its IT assets, including automatic logging and reporting of failure events. Thus, easing the administrative workload and costs involved in asset maintenance.
- Technical maintenance staff can access any of the Bureau's computers remotely, deploying software and upgrades, troubleshooting, and fixing software problems. Having almost instant access to a faulty computer and dispensing travel time allowed the Bureau to reduce computer failure recovery times by up to 60** percent.
- By improving the efficiency and operation of the TMIS computers, the Bureau is able to provide reliable, on-time information throughout the railway system in the province, improving the quality of its services.

**Figures provided by Lanzhou Railway Bureau.

Solution provided by:



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Intel® Active Management Technology requires the platform to have an Intel® AMT-enabled chipset, network hardware and software. The platform must also be connected to a power source and an active LAN port.

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