

# SUSIAccess - Smart Access to Embedded Devices

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*Designing embedded systems with dedicated functions and tasks requires unique solutions and specifications that demand high standards of service in order to deliver a seamless experience to users in a diverse range of industries. Faced with increasing competition, vendors have always strived to add more value to their products. This is where Advantech's SUSIAccess software comes in.*

Advantech has been developing the SUSI API series since 2004 to create convenient management solutions for embedded applications. After the original security features of eSOS (a small embedded OS used to boot up a system when the major OS boot-up fails) were introduced in 2009, Advantech launched SUSIAccess in Q2 2011, incorporating the latest cloud computing concepts. Nowadays, because most embedded devices are connected, the System Integrator can employ remote access solutions to manage or rescue their remote embedded devices. This new version enables users to remotely control, configure and manage, multiple terminal devices and data, as well as providing system maintenance, backup and recovery. The new smart remote access solution for embedded devices will give customers more control over their devices regardless of the hardware platform specifications.

## Proactive data gathering reduces maintenance cost, improves efficiency and reduces down time

The main purpose of SUSI (Secure & Unified Smart Interface) was to provide a set of tools to effortlessly monitor and integrate the system through an intelligent interface as well as helping to save power and energy. By adopting Advantech's SUSIAccess, any unique combination of software and hardware

can achieve maximum efficiency for end users' applications. "SUSIAccess was derived from Advantech's ePlatforms to monitor and manage multiple terminal devices as well as configure, maintain and recover them.

SUSIAccess centralizes monitoring of all embedded devices; it collects all device data, and provides logs in a customized dashboard or table view. When errors occur, it auto-notifies the system administrator via warning popups and e-mail alerts. And if there's a major system crash, it automatically reboots so it can run diagnostics and deploy system recovery procedures. If necessary, it can deploy firmware upgrades or file updates, and it can even capture screens to help troubleshoot problems.

The main difference between SUSIAccess and other competitive products are the proactive data mining features. SUSIAccess not only actively detects embedded devices, but also saves related data on the server for subsequent evaluation. Backup or recovery can be performed with the help of the eSOS utility. An emergency OS image is stored in an FTP server or on a hidden partition to provide ultimate peace of mind. SUSIAccess can enable remote recovery by manually clicking the restore button to recover the whole system. These remote operations can significantly reduce the maintenance and manpower costs arising from on-site visits.

## More cost-effective troubleshooting using remote access and control

Take digital signage for example, there are hundreds or even thousands of units in a typical airport or in chain stores up and down the country. To be able to effectively control all those devices and quickly resolve any problems is a big challenge, and although there are similar products that provide early warning functions, it is not so simple to determine what causes a system to fail. Usually, maintenance staff will need to inspect a broken product to determine what the problem is.

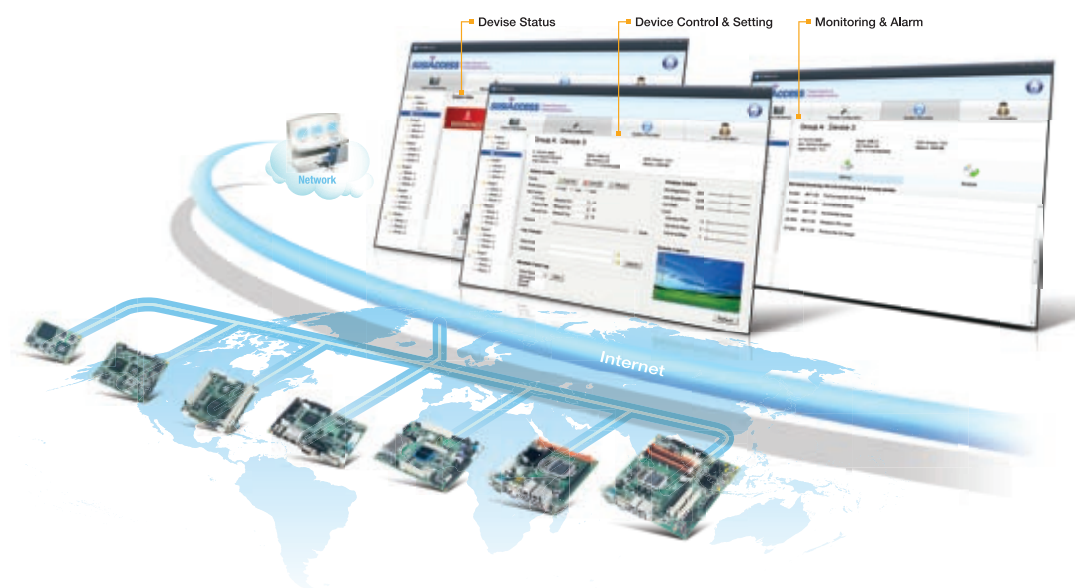
Obviously, staff on-site visits can be an unnecessary waste of time and manpower. Such scenarios can be resolved by using

the remote management features of SUSIAccess. With SUSIAccess, when a device fails or behaves abnormally, the system will send a message so that a user can remotely diagnose and resolve problems. Most problems can be resolved by remote control which can drastically reduce maintenance effort.

Furthermore, some digital signage devices may have been installed high up, or placed in difficult to get at locations—making regular backups or updates difficult to perform. But, through the remote configuration and system backup features of SUSIAccess, users can backup any system or update data from the convenience of the central administration office. Devices can also have volumes and displays adjusted through SUSIAccess.

## Future versions will combine Intel technology

SUSIAccess features are also suitable for many different application fields such as traffic monitoring, logistics and transportation, factory automation or ATM management. The greatest value of Advantech's SUSIAccess is that it provides a ready to use remote access solution for system integrators to monitor, control, recover and manage their embedded devices from anywhere. Hitches and glitches are taken out of complex projects, and developers can concentrate on adding value to their application and reaching the market ahead of the competition. SUSIAccess is included with selected Advantech embedded products. SUSIAccess will continue to evolve with new functions to fulfill customer requirements as the need arises, and in order to add more value and provide the best services, Advantech will launch SUSIAccess 2.0 specifically for Intel technology in the second half of 2011.



## SUSIAccess Core features

- Centralized Device Monitoring
  - Collects all embedded device data
  - Displays data in a customized dashboard
  - Auto notifies errors via warning popups and e-mail alerts
- Integrated Remote Control
  - Remotely adjust embedded device settings
  - Transfer files to a remote device for firmware or application updates
  - Remote diagnostics via screen captures, hardware log analysis, and windows XP event log files
- One-Click System Recovery
  - Back-up complete system and files any time
  - Restore a system
  - Smart back-up saves images to offsite FTP

## SUSIAccess Benefits

- Lowers complexity for embedded system deployment
- Saves time and resources during system builds
- Increases system reliability
  - All devices have real-time monitoring
  - Instantly control devices to resolve technical issues
  - Recover the OS image if Windows XP crashes
  - Transfer files to remote devices for firmware or application updates
- Decrease after-service costs
  - Reduced volume and customer call duration, more issues solved via SUSIAccess
  - Reduced service visits, more issues solved remotely
  - Reduced cost of visits—correct parts are sourced for FAE engineers

## SUSIAccess Functions

- Monitoring



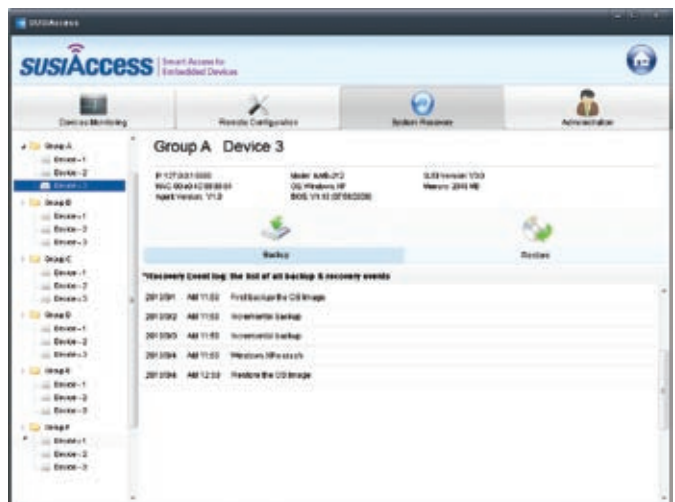
Monitors all device status information including: temperature, voltage, fan speed, and peripherals like SQFlash SSD, 3.5G strength, and remaining battery power—information that is essential for reliable administration of the embedded system. Log data is recorded for every event and stored in a SQL DB.

- Configuration



Nowadays, because all embedded devices are connected together, an administrator can use SUSIAccess to remotely configure all their embedded devices from one location. Configuration options include high and low warning tolerances for all values such as system temperature, fan speeds, and voltages, as well as values for displays, and additional functions for screen captures, as well as FTP file transfer for firmware or application updates.

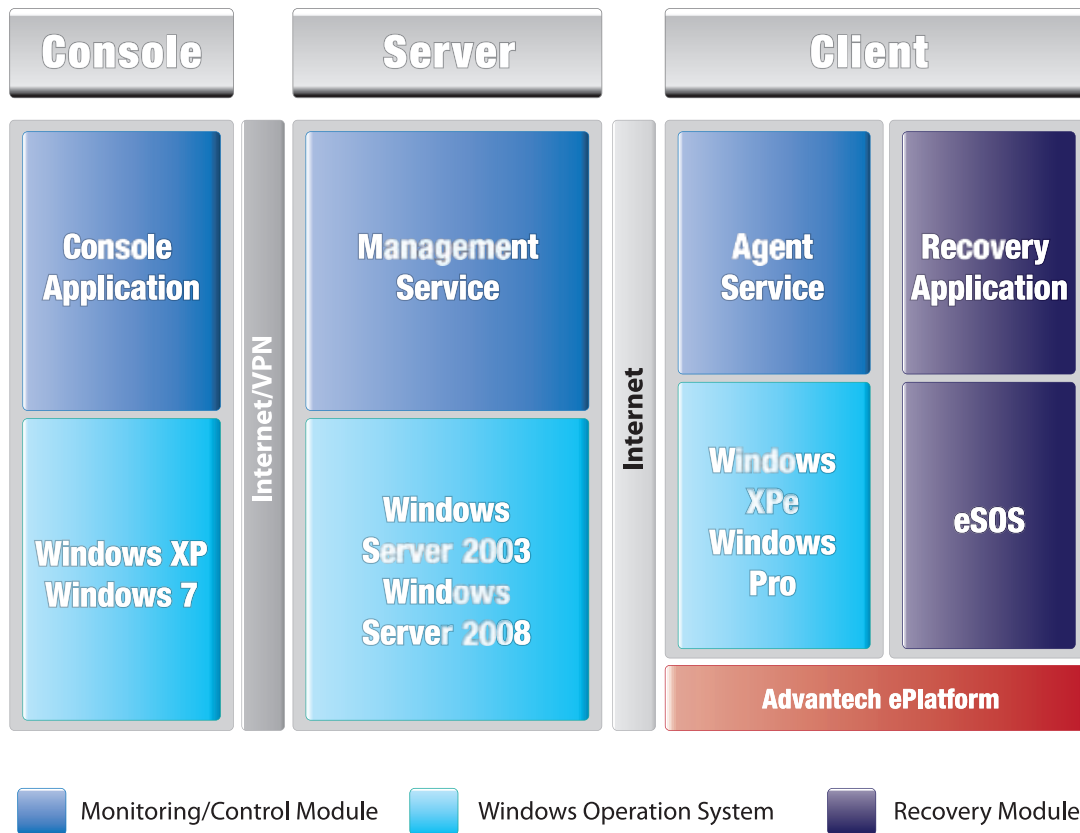
- Recovery



System Recovery is a system backup/restore utility. An emergency OS image is stored in an FTP server or hidden partition to provide ultimate peace of mind. When an embedded OS fails to boot up properly or if for whatever reason a system crashes, SUSIAccess can enable remote recovery by manually clicking a restore button to recover the whole system. System administrators can also remotely set monitoring criteria for warning popups and e-mail notifications.

## SUSIAccess Software Structure

SUSIAccess includes three parts: Console, Server and Client. Below is the communication structure.



- **SUSIAccess Console**  
The main user-interface, which is used for monitoring, managing, and controlling the client side of Windows XP, and other configuration settings.
- **SUSIAccess Server**  
The main program that synchronizes data with all clients—a service program that auto runs after windows boots up.
- **SUSIAccess Client**  
The client side program that synchronizes data with SUSI Access Server. This is a service program that auto runs after Windows boots up. eSOS is a small embedded OS, designed by Advantech, and used to boot up the system when the major OS boot up fails. eSOS is installed in a hidden partition area of storage.

Advantech's SUSIAccess provides a ready to use remote access application for System Integrators to monitor, control, recover and manage their embedded devices from anywhere. With SUSIAccess, hitches and glitches are taken out of complex projects, and developers can concentrate on adding value to their application and reaching the market ahead of the competition. SUSIAccess is included with selected Advantech embedded products. SUSIAccess will continue to evolve with new functions to fulfill customer requirements and simplify application development.

\* SUSIAccess v1.0 supports embedded OS like Windows XP Professional and Windows XP Embedded. Other OS will be supported in the near future.