

# LG CLOUD T SERIES



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- Information on the product or technology may be subject to change  
- Some features including this document may vary or differ depending on counties

# 1. Introduction

The “Zero Client” is the newest trend where the client device does not run a full OS. The device initializes the network, starts up the necessary protocols and handles the display received from the server. Under the Zero Client system, the server takes care of most of the processing, while the device only deals with the minimum requirements. This approach explains why Zero Client does not require a high performance CPU or local storage.

**Zero Client system removes the need for CPUs and storage.**

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Centralized processing and storage resources are more cost effective than using local, stand-alone devices that carry out all of the necessary functions. In short, a Zero Client, which contains minimum components, costs less. This cost-effectiveness will increase with the number of end-devices, and grows further still when considering that the device lifetime for a Zero Client is longer than that of a conventional PC.

**Zero Client system offers higher cost efficiency.**

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This effect is maximized in multiple-user environments, such as offices and government buildings. Not only does a Zero Client system create quieter surroundings, the system allows more efficient working area for employees. As Zero Clients have fewer components than PCs, it will also reduce energy consumption per device.

For crucial issues such as security and management, Zero Clients can provide a key solution. Zero Client system reduces the possibility of device malfunctions or being infected with a virus, while enabling IT managers able to manage the status of each device from a remote and central location. This aspect can also prove useful in case of end user’s devices. As there are no local storage units, the device does not contain information that can be exploited.

**Zero Clients reduce security concerns, energy consumption and create more pleasant working environment.**

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With all these benefits, implementing a Cloud Computing infrastructure using Zero Clients will significantly reduce TCO, simplify the IT asset management structure, and provide solid defense against security incidents.

Thick Client



Thin Client



Zero Client



		Thick Client	Thin Client	Zero Client
Hardware	CPU	High Spec CPU	Low Spec CPU	Embedded CPU(ARM SoC)
	Memory	High	Middle	Low
	Storage	General HDD	Flash Type	None
	Power Consumption	High	Middle	Low
Software	Operating System	Windows 7 / Linux	Embedded OS	Embedded OS
	Application Installation	Many	Some	None
Usage	Security & Management	Difficult	Difficult	Easy
	Performance	High	Low	High
	Private Use	High	High	None

## 1) Introduction of LG Cloud T Series

### LG UNVEILS T SERIES ZERO CLIENT WITH CITRIX SOLUTION.

#### (1) LG Cloud T Series Monitor

**LG Cloud T Series is the optimized VDI end point for CITRIX XenDesktop and HDX with high performance SoC.**

LG Cloud T Series extends LG’s rapidly expanding range of Zero Client computing devices. The Citrix HDX Technology software allows for server consolidation and integration while the marriage of Texas Instruments’ DM8148 1GHz SoC with Citrix HDX Technology enables the LG Cloud T Series to serve as a high-performance Zero Client, boosting high picture quality and secure information system. Also Cisco’s UPoE together reduces the maintenance workload for IT managers and overall operational costs through fewer hardware purchases and reduced power consumption.

**LG releases LG Cloud T Series, offering better graphic processing capabilities and six USB ports for extra flexibility in the work place.**

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Aside from the fundamental design, the LG Cloud T Series monitor includes a Full HD IPS display. Compared to conventional Twisted Nematic (TN) panels, IPS boosts color consistency for more realistic colors, and offers an impressively wide viewing angle (178 degrees). When combined with Citrix HDX Technology and the ultra-fast TI chip, the IPS monitor yields advanced display performance and visual contents quality that is comfortable to the eyes, reducing stress and increasing focus. The external design of the monitor consists of a matte black finish on the frame and a slim height, swivel and tilt adjustment for great ergonomics while at work.

The LG Cloud T Series offers six USB ports and DVI port for a clone display. The six USB 2.0 ports enable accessories such as keyboards, mice, printers, scanners, card readers and cameras to attach to the LG Cloud T Series for enhanced functionality.

The monitors are available in two sizes, 23-inches (16:9 aspect ratio) and 19-inches (16:10 aspect ratio), from November 2012.

## (2) LG Cloud T Series Box

**LG Cloud T series box type offers space efficiency and energy and a cost effective business environment.**

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Independent from any monitor, the LG Cloud T Series box includes Citrix HDX Technology and the next-generation TI SoC that offers similar high-end display performance for any monitor it connects to. Additionally, the Zero Client box type can stand vertically with a cradle or it can attach to the backside of a monitor for increased space efficiency. This is a low-cost alternative to the T Series; advantageous for many enterprises and even SMEs that have already invested in monitors.

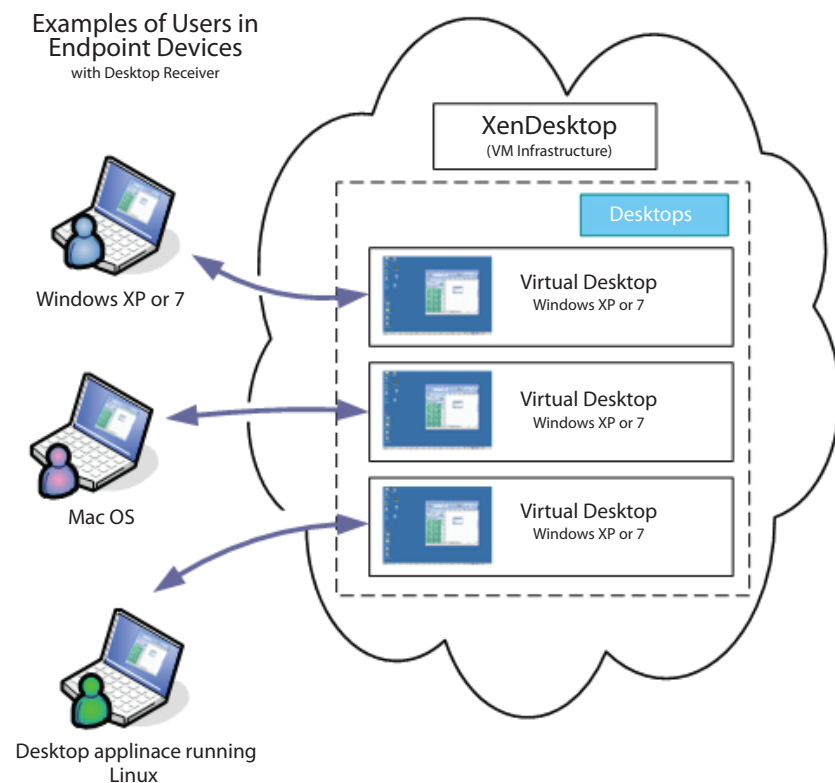
## 2. Core Technology

### 1) XenDesktop Compatibility

The LG Cloud T Series supports XenDesktop software.

The LG Cloud T Series currently supports XenDesktop 5, and the support system map will correspond to the XenDesktop release schedule.

#### [Citrix XenDesktop Technology for LG Cloud T Series]



The LG Cloud T Series optimizes ICA as its core technology to enable a true Zero Client. The Citrix ICA Client is a UNIX application that provides access to a Windows session running on a high-performance Citrix server. Once the connection to the Citrix server is established, you can access Windows applications and work with files in a similar way to working on a local PC. Because the Windows applications are running remotely on a Citrix server, you get excellent performance.

**LG Cloud T Series is optimized for CITRIX VDI solution (HDX Ready) based on TI system on chip.**

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## 2) HDX™ Technology

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LG Cloud T Series is based on TI DM 8148 technology to support Citrix HDX™ Technology.

HDX™ Technology is a set of capabilities that delivers a “high definition” desktop virtualization user experience to end users for any application, device or network. These user experience enhancements balance performance with low bandwidth—anything else becomes impractical to use and scale. HDX™ Technology provides network and performance optimizations to deliver the best user experience over any network, including low bandwidth and high latency WAN connections.

### HDX™ Features

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▶ HDX™ Broadcast

HDX™ Broadcast optimizes the reliability and performance of hosted virtual desktops and applications in a VDI environment over any network, enabling high definition user experience when accessed on the corporate network or from outside the corporate network for remote desktop access.

▶ HDX™ MediaStream

HDX™ MediaStream leverages the processing power of the endpoint device to render the multimedia content. On the datacenter side, the compressed multimedia information is sent directly to the endpoint in its native format.

▶ HDX™ RichGraphics with RemoteFX

HDX™ RichGraphics optimizes the performance of graphics-intensive 2D and 3D applications, using software and hardware-based rendering to assist with compression and efficiency.

▶ HDX™ Plug-n-Play

In a virtual desktop(VDI) or virtual application environment, HDX™ Plug-n-Play enables simple connectivity for USB, multi-monitor, printers and other peripheral devices, as well as local machine resources.

▶ HDX™ RealTime

HDX™ RealTime is supported by bi-directional audio capabilities. This enables users to connect audio peripherals such as microphones and dictation hardware at the endpoint device that interact with virtual applications and virtual desktops hosted in the data center.

▶ HDX™ WAN Optimization

Optimizes performance and network utilization across a WAN by compressing, caching and prioritizing traffic. HDX™ WAN Optimization provides a LAN-like experience for branch office and mobile users while reducing the bandwidth consumption of virtual desktops and applications by up to 90%.

▶ HDX™ SmartAccess

HDX™ SmartAccess allows users to securely access desktops and applications using any device in any location, including home computers, kiosks and mobile devices.

▶ HDX™ Adaptive Orchestration

When it comes to user experience, there are several factors to balance: performance, security, endpoint flexibility, network conditions and infrastructure cost. HDX Adaptive Orchestration is designed to help you dynamically balance these factors, based on device, network, user or application, to make best use of existing infrastructure and computing power.

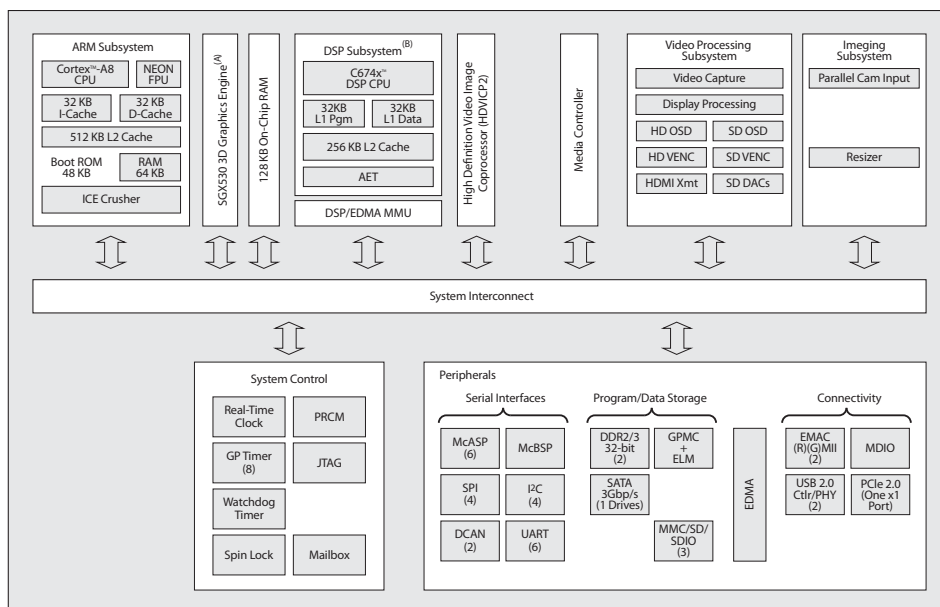


### 3) Texas Instruments DM 8148

LG Cloud T series integrated with the newest video processors offers a greater video processing performance.

TMS320DM8148 DaVinci™ Digital Media Processors are a highly-integrated, programmable platform that leverages TI's DaVinci™ Processor technology to meet the processing needs of the following applications: HD Video Conferencing-Skype endpoints, Video Surveillance DVRs, IP Netcam, Digital Signage, Media Players and Adapters, Mobile Medical Imaging, Network Projectors, and Home Audio and Video Equipment to name a few.

[Texas Instruments DM 8148 Block Diagram]





- ▶ High-Performance DaVinci™ Digital Media Processors
  - Up to 1-GHz ARM® Cortex™-A8
  - Up to 750-MHz C674x™ VLIW DSP
  - NEON™ Multimedia Architecture
- ▶ HD Video Processing Subsystem (HDVPSS)
  - Two 165 MHz HD Video Display Outputs
  - Digital HDMI 1.3 transmitter with integrated PHY
- ▶ Programmable High-Definition Video Image Coprocessing (HDVICP v2) Engine
  - H.264, MPEG2, VC1, MPEG4, SP/ASP, JPEG/MJPEG
- ▶ SGX530 3D Graphics Engine
  - Delivers up to 18 MPoly/sec
  - Direct3D Mobile, OpenGL ES 1.1 and 2.0, OpenVG 1.0, OpenMax API Support
  - Programmable HQ Image Anti-Aliasing
- ▶ Dual 32-bit LPDDR/DDR2/DDR3 SDRAM
  - Each With Four Chip-Selects Interfaces
  - Supports up to LPDDR-400, DDR2-800, and DDR3-800
- ▶ Dual Port Ethernet (10/100/1000 Mb/s) With Optional Switch
- ▶ Dual USB 2.0 Ports With Integrated PHYs
- ▶ Three MMC/SD/SDIO Serial Interfaces [up to 48-MHz]

### 3. Product Specification

**LG Cloud T Series widens the Zero Client range of VDI offerings.**

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The LG Cloud T Series is a Citrix-based Zero Client System.

The Zero Client technology allows you to conduct computing tasks without a desktop. The centralized network management supports easy-maintenance and efficient business operations.

- ▶ Low Power Consumption with High Performance TI Chip (DM 8148)
- ▶ Optimized for Citrix HDX Technology and XenDesktop
- ▶ Wide Viewing Angle and Full HD Resolution with IPS Panel (23")
- ▶ Built-in Speaker
- ▶ 6 x USB 2.0 / DVI-D for Extend, Clone Display
- ▶ Easy Device Maintenance with Management S/W

## LG Cloud T Series Specification

Size	19" (19CNT42K)	23" (23CAT42K)	Box Type (CBT42)
DISPLAY	- TN Panel - 16: 10 / 1440 X 900	- IPS Panel - 16:9 / 1920 X 1080	None
VIDEO	- D-Sub (Signal Input): For Ordinary Monitor Usage (Connect with Desktop or Laptop)	←	None
	- DVI-D (Signal Output): Extend / Clone Mode Display Extend Mode: Display the Stretch Image of Primary Monitor Clone Mode: Display the Same Image as Primary Monitor	←	-DVI-D / D-Sub (Signal Output): Extend / Clone Mode Display Extend Mode: Display the Stretch Image of Primary Monitor Clone Mode: Display the Same Image as Primary Monitor
AUDIO	- Audio Input: Mic-in (Jack Location: Side)	←	←
	- Audio Output (1) Headphone Out (2) Speaker : Stereo / 1W X 2	←	←
LAN (Ethernet)	(10/ 100/ 1000) Sending Data at 10 mbps, 100 mbps or 1000 mbps (One Gigabit per second)	←	←
USB (Total USB Ports: 6)	(1) Side: USB 2.0 x 2 → USB Memory, USB HDD (Hard Drive Disk)(2) (2) Rear: USB 2.0 x 4 → Mainly for Keyboard and Mouse Connection	←	USB 2.0 x 6 Front : USB 2.0 x 2 Rear: USB 2.0 x 4
Power Adaptor	- Adapter (19 VDC) / 100V~ 240V	←	←
Power Consumption	(1) Monitor Mode:17W (2) VDI: 24W	(1) Monitor Mode: 24W (2) ICA Connection: 31W	VDI Mode: 10W (TBD)
	- DC Off: Max 0.5W	←	←

**LG Cloud T Series delivers an excellent display environment with all-around quality, consistent response time and wide viewing angles.**

## 1) LG Cloud T Series Monitor USP

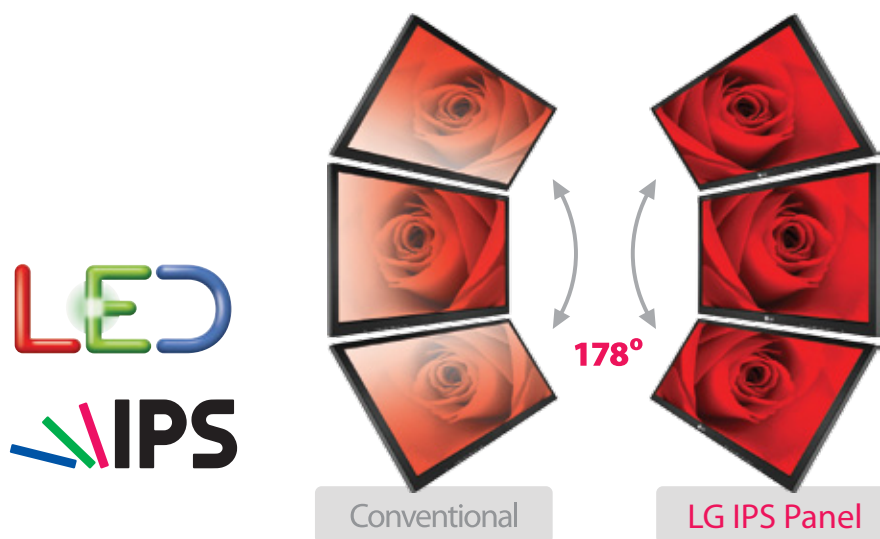
LG Cloud T Series is optimized for Citrix VDI Solution with Monitor type as well as Box type Form Factor.

### (1) IPS Panel (23")

Exceptional Picture Quality

#### ► Lifelike Color

It offers a color impression identical to that of the original image.



#### ► Wide Viewing Angle (Viewing Angle 178°)

LG IPS Monitor allows you to enjoy realistic display quality without eye-fatigue whether you are standing or watching from the side.

#### ► Smooth Color Changes

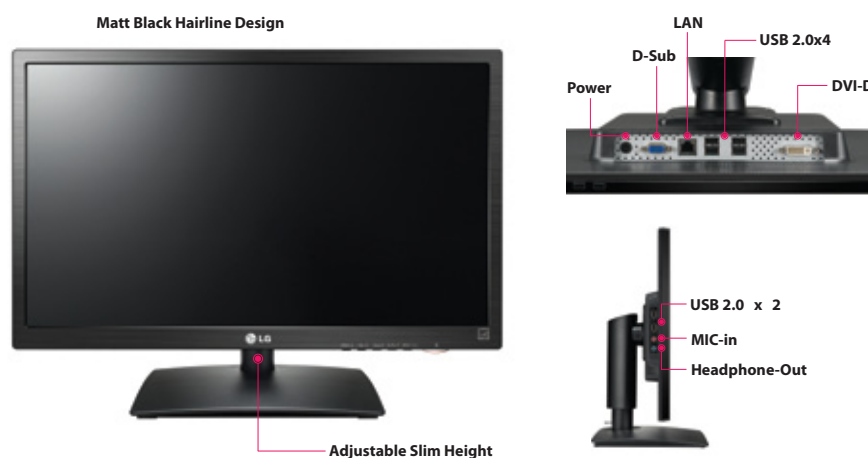
The LG IPS monitor provides a comfortable display environment where the strain on the eyes is lower even working on high-definition graphics and video images for prolonged periods.

**LG Cloud T Series is ergonomically designed to offer more space efficiency from a lack of cables and seamless interoperation with other wireless products.**

## (2) Ergonomic Design

- ▶ User Friendly Side Interface
- ▶ Easy Set-up & Cabling  
(Simple connection with 1 power + 1 LAN + 1 Keyboard + 1 Mouse)
- ▶ Swivel / Tilt
- ▶ Matt Black Hairline Design

### [LG Cloud T Series 23CAT42K]



## (3) Additional Features

- ▶ Built-in Speaker
- ▶ UPoE Ready (Optional / UPoE Power Splitter)

\*UPoE (Universal Power Over Ethernet): UPoE is supported when the product is connected to UPoE-capable Cisco Catalyst 4500E switches.

## 2) Box vs Monitor type

**LG Cloud T Series is available as either a monitor or a standalone box to connect to a pre-existing screen.**

Not only is it space-efficient, it can be pleasing to the eyes, with a simple and minimalistic appearance. Monitor type approach also means less cables, which means less hassle for each user. Instead of connecting multiple cables, the monitor form-factor reduces this to the minimum.

**LG Cloud T Series supports intuitive management software as a bundle for user convenience.**

**All user centric features exclusive for the LG Cloud T series give more benefits at manager end points.**

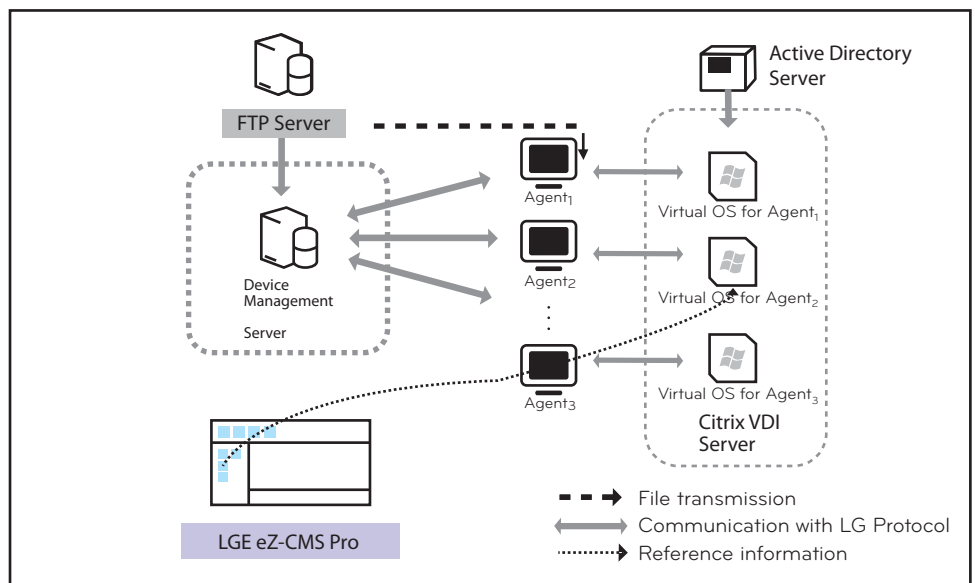
### 3) eZ-CMS (Device Management Software)

eZ-CMS is specially developed for Zero Client management, and it comes bundled with all LG Zero Client T Series. eZ-CMS enables easy configuration, insight and management of all LG Cloud T Series.

eZ-CMS addresses key management requirements for deploying powerful Zero Clients. With its centralized management and administration, ez-CMS helps IT departments deliver more effective remote cloud client support while minimizing end user downtime and also reduce the IT manager’s workload.

Easily manage Zero Client with ez-CMS throughout your enterprise or SMEs.

[Device Management System Diagram in VDI]



## [Device Management User Interface]

**LGMC** MAIN\_ADMIN Logout  
Configuration

**Dashboard** **Devices** **Task Sequence** **Admin**

**Server Status**

Normal Operation ● Setting

- Setting ● OK
- DB Server ● OK
- AD Server ● OK
- AD Server ● OK

**Devices Status**

- Devices 312 [Discover more](#)
- Newly Discovered ● 3 [Configure](#)
- VDI Server ● 1.3 [Configure](#)
- Active Status ● On 180 ● Off 32 ● 20 ● 80 [Details](#)

**Tasking Process**

Task Name	Progress	Start Date	Creator	Last Update
MyTask	Processing	2012.03.21 13:20	MAIN_ADMIN	2012.03.21 03:12
Message Sending	Success	2012.03.21 13:20	SUB_ADMIN1	2012.03.20 03:12
Firmware Update	Cancelled	2012.03.21 13:20	SUB_ADMIN2	2012.03.19 03:12
Message Sending	Failed	2012.03.21 13:20	SUB_ADMIN1	2012.03.20 03:12
Firmware Update	Waiting	2012.03.21 13:20	SUB_ADMIN2	2012.03.19 03:12

[Schedule](#)

**Quick Actions**

Rescue  Search

switch icon icon icon  
Power Control Remote Firmware Update

icon icon  
Message Add Devices

icon icon icon  
Report FTP Files DB Manager

### Key Features

- ▶ System Self Diagnosis: Self Error Checking and Fix
  - In case of error is not able to be fixed, report system error to the IT manager
- ▶ Dynamic User Grouping: Filtering Users by Various of Criteria
- ▶ Task Sequence: Auto-run for Frequent Tasks
- ▶ Dash Board: User Friendly and Easy Monitoring Interface
  - Quick Action Menus for Easy & Quick Task Operation
- ▶ Resource Management: Managing IP, User Name, Serial #, etc.
- ▶ Remote View: Remote Access & Control as Help Desk