PowerPC Development Tools

Introduction 2009

Who is MICETEK?

- Founded in 1999, Micetek has been one of leader suppliers designing and manufacturing the development tools of 51MCU, ARM and PowerPC processors all over the world.

- Now,our main products focus on in-circuit emulator, IDE, reference platform for PowerPC processors. We're also pleased to supply the developer ideal software and hardware design service.

Our Target

MICETEK is dedicated to supply the right tools to help the developers fasten to market in the embedded field.

Client' success is MICETEK's success.

PowerPC products

Reference boards (processor card + Type-N/A/S carrier)

1）Processor card: MPC8347E/MPC8541E/8560/8548E/8572 Hot

2）Carrier：Type-N, Type-S, Type-A

Reference boards (Single board)

3）MPC8349E-mITX, MPC8349E-mITX-GP

4）MPC8313E-RDB

5）MPC8323E-RDB

6）MPC8315E-RDB Hot

7）MPC8379E-RDB Hot

Development tools

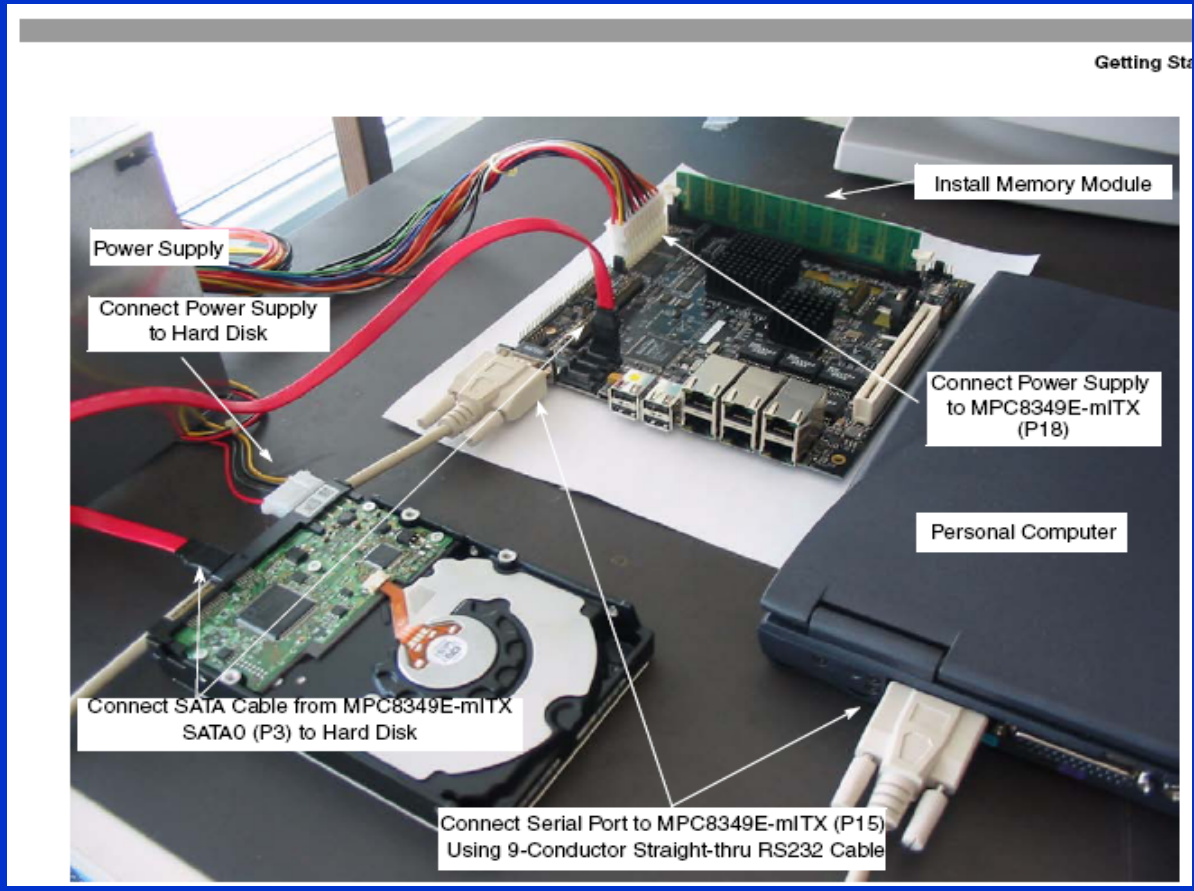
8) In-circuit emulator: USB TAP (for MPC8XX, 82XX, 83XX, 85XX, MPC5XX, 5XXX, 7XX, 7XXX)

9) IDE: JediView for PowerPC

MPC8349E-mITX development platform

Features

- CPU: MPC8349E, e300 core, 533MHz
- 5+1 Gigabit Ethernet ports
- x 4 SATA connectors
- 4-port USB 2.0 hub, mini-USB
- PCI, miniPCI slot
- Integrated security engines
- x2 RS232
- 4-channel DMA
- GPIO



Two MPC8349E reference platforms

Reference platform	Gigabit Ethernet port	USB 2.0	PCI slot	SATA	DDR1 SDRAM	Flash	Compact-Flash
MPC8349E-mITX	5+1	x4 USB Type-A, x1 mini-USB	x1 PCI slot, x1 mini-PCI slot	x4	256MB	16MB	1
MPC8349E-mITX-GP	1	X1 mini-USB	x1 PCI slot	-	128MB	8MB	-

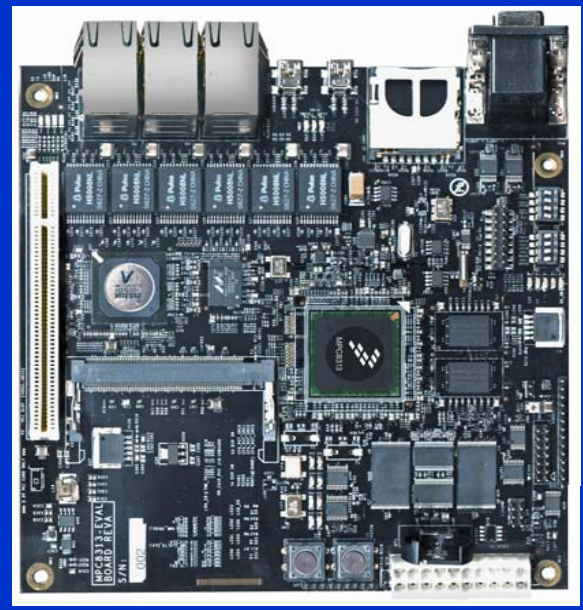
MPC8313E-RDB reference board

Applications:

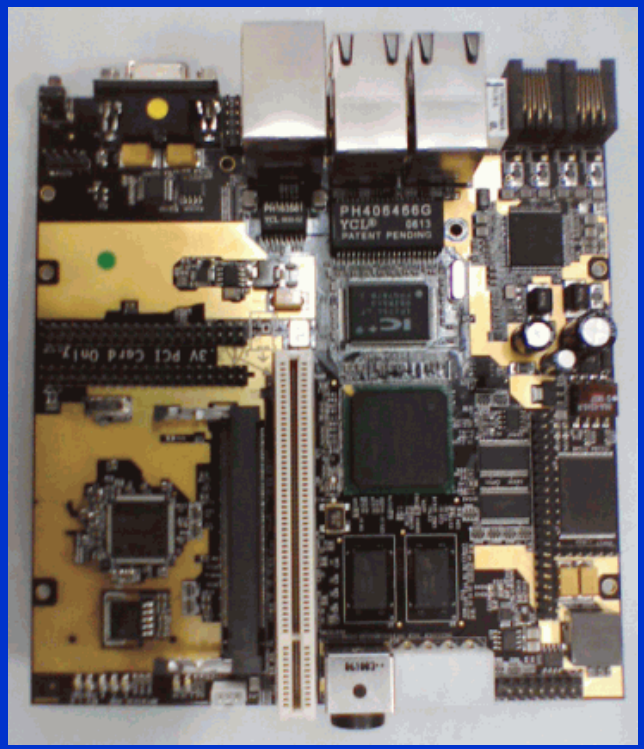
cost-optimized networking applications of several small office/home office (SOHO), printing, IP services and industrial control applications.

Features:

- CPU: 333MHz
- 128 MB unbuffered DDR2 SDRAM
- 5+1 Gigabit Ethernet ports
- x2 mini-USB 2.0 port
- x2 PCI slots
- x2 UART ports



MPC8323E-RDB reference board



Target Applications:

Multi-service Residential gateways, SOHO networking,VPN routers, Access points, DSLAM line cards, Industrial control, IP Server device, such as VoIP, IPTV,Test and measurement equipment

Features:

- CPU: 333MHz
- 64 Mbytes DDR2 SDRAM
- 16 Mbytes Flash memory
- 4+1 10/100M Ethernet ports
- 2 x RJ-11
- 2 x USB2.0 type A ports
- 2 x PCI slots

MPC8315E-RDB reference board

Applications:

The two-drive consumer network attached storage (NAS) and the digital media server.

Features:

- CPU: MPC8315E, running at 400/266 MHz (CPU/DDR2)
- Memory: 32-bit DDR2, 16-bit local bus, NAND flash/NOR flash
- Two Gigabit, One 10/100 Ethernet port
- USB 2.0: three-port USB hub
- PCI one PCI and one MiniPCI slot
- PCI Express:
  PCI Express embedded connector
  MiniPCI Express slot for WLAN
- SATA:
  Two SATA connector
  (eSATA connector through SATA-eSATA) connector
- SPI/TDM: two RJ-11
- DUART

MPC837xE-RDB Reference Design Board

Applications:

Multifunctional Printer, Small/Medium Business Gateway, IP-PBX systems, Network Attached Storage (NAS), Digital Media Server (DMS)

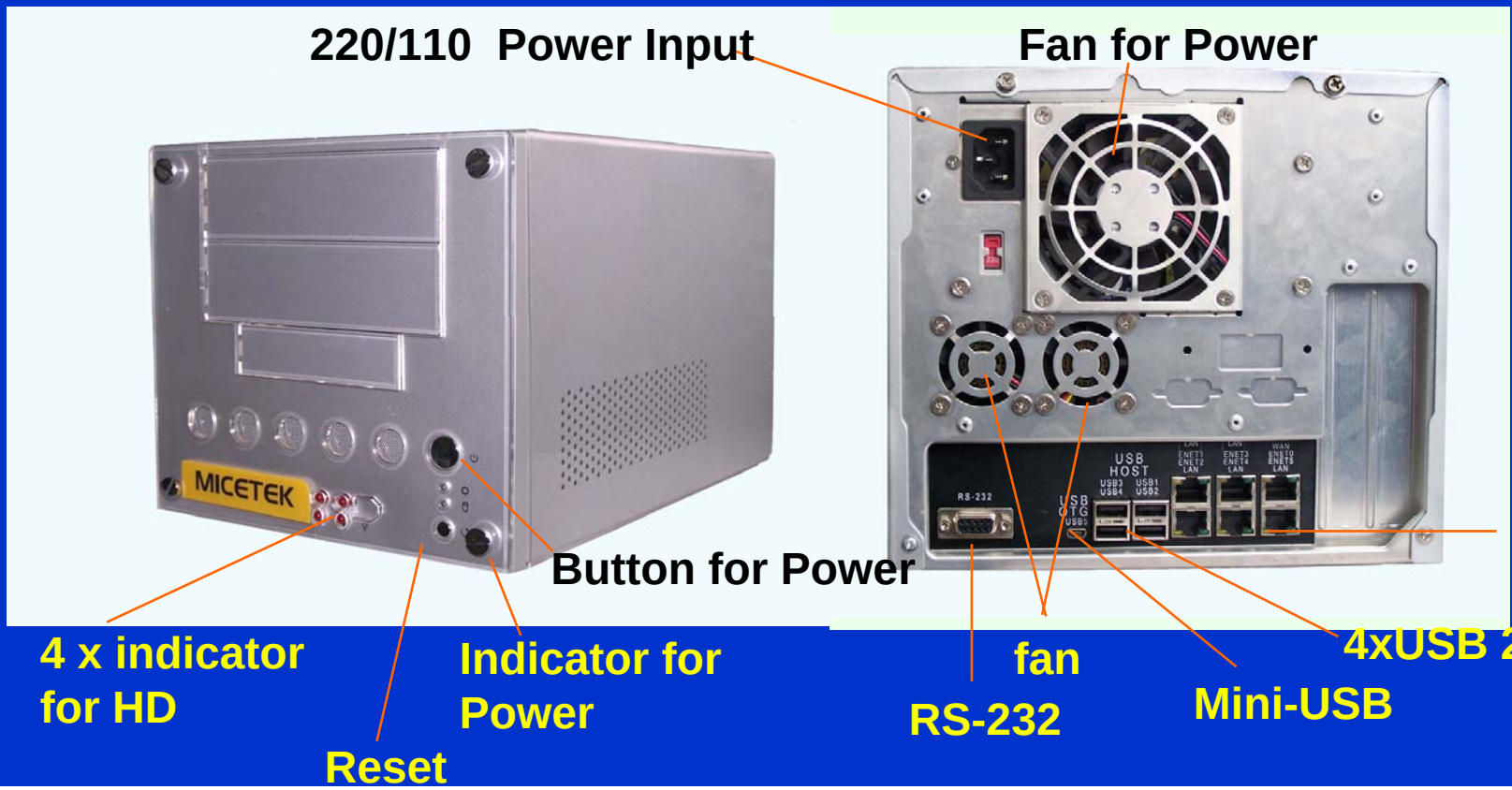
Features:

- **CPU:** Freescale MPC8377E/8379E
- **Memory**
  - 256 MB unbuffered DDR2 SDRAM, 8 MB NOR flash, 32 MB NAND flash
- **5+1 10/100/1000** Ethernet ports
- **PCI Express slot** (available for MPC8377E)
  - PCI Express slot
  - MiniPCI Express for WLAN
- **PCI slot**
  - One MiniPCI slot
  - One PCI slot
- **SATA**
  - x4 SATA II connectors (x2 SATA for MPC8377E)
- **USB 2.0**
  - 4-port USB hub or one USB OTG

Solutions for Network Attached Storage

- **Solve the problem what we're facing**
  - The data, stored in the PC and Notebook of each employee, is so separate that it's easy to lose
  - Large amounts of files and data should be shared and backed up
  - The demands of expanded storage of clients
  - Large backup devices are too expensive and too complicate
  - Lose important data because of one device failure

MiNAS 101



Hardware specifications of MiNAS 101

- **CPU:** Freescale **MPC8349E@533MHz**
- **Memory:** 256-Mbyte DDR2 DIMM SDRAM
- **Flash:** 16-Mbyte Flash
- **RAID level:** **Support RAID 0,1,5**
- **Hard drive:** 4 x 3.5'' SATA I/II Hard drive
- **Standard capacity:** 640G (4 x 160G)
- **Max. Capacity:** **2TB (4 x 500G)**
- **Ethernet port:** 1 x 10/100/1000M RJ-45 Ethernet interface; 5-Port Gigabit Ethernet Integrated PHY Switch
- **USB port:** USB 2.0 x 4, supporting printer, external HD

MiNAS 102

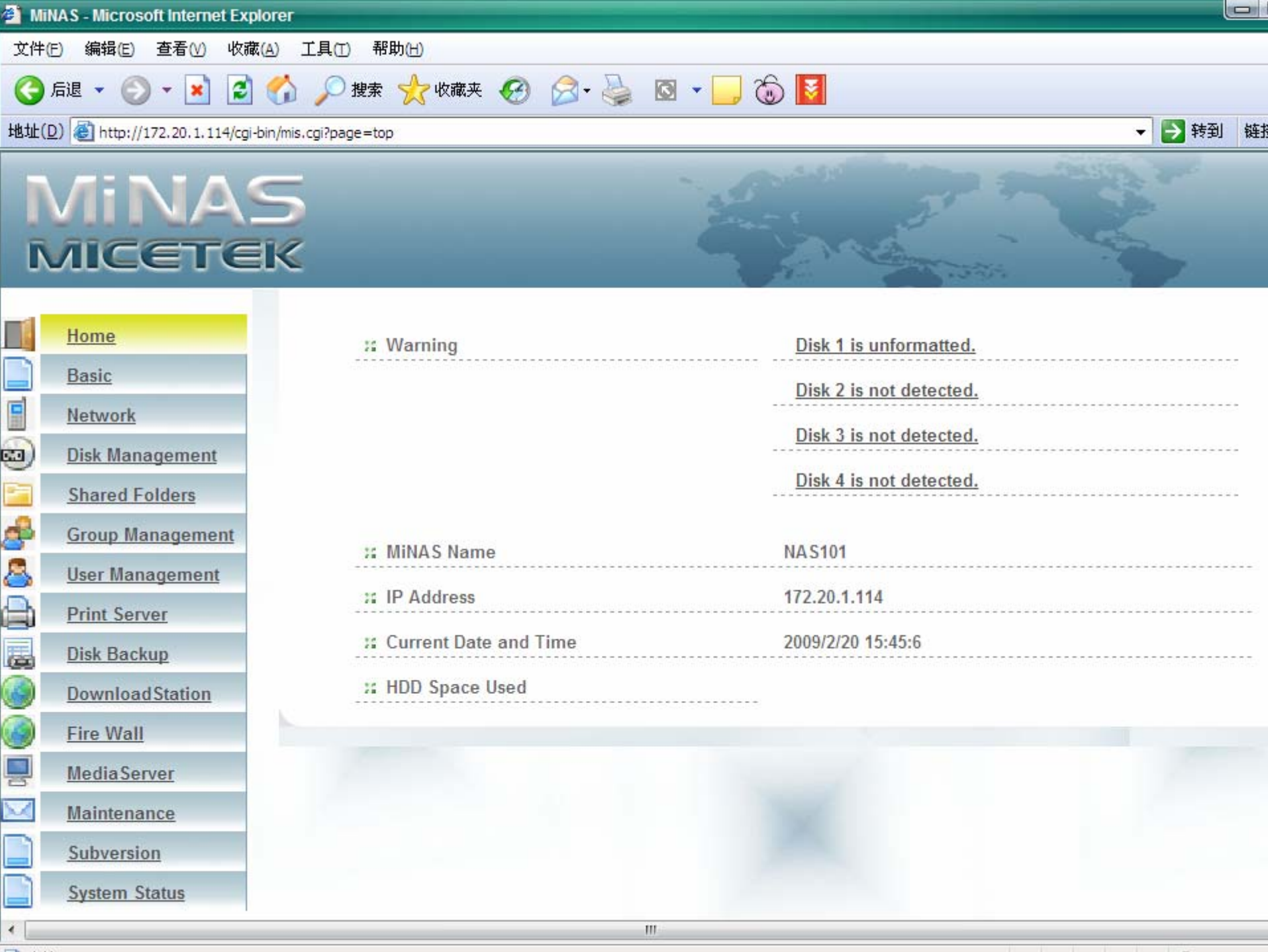
SATA connector

E-SATA connector

2 x GbE

Hardware specifications of MiNAS 102

- **CPU:** Freescale MPC8347E@400MHz
- **Memory:** 128-Mbyte DDR1 DIMM SDRAM
- **Flash:** 8-Mbyte Flash
- **Hard drive:** One 3.5'' SATA I/II Hard drive and can add one E-SATA hard drive via E-SATA port
- **Max. Capacity:** **1TB (2 x 500G)**
- **Ethernet port:** 2 x 10/100/1000M RJ-45 Ethernet interface;
- **USB port:** USB 2.0, **supporting printer**, external HD


MiNAS - Microsoft Internet Explorer
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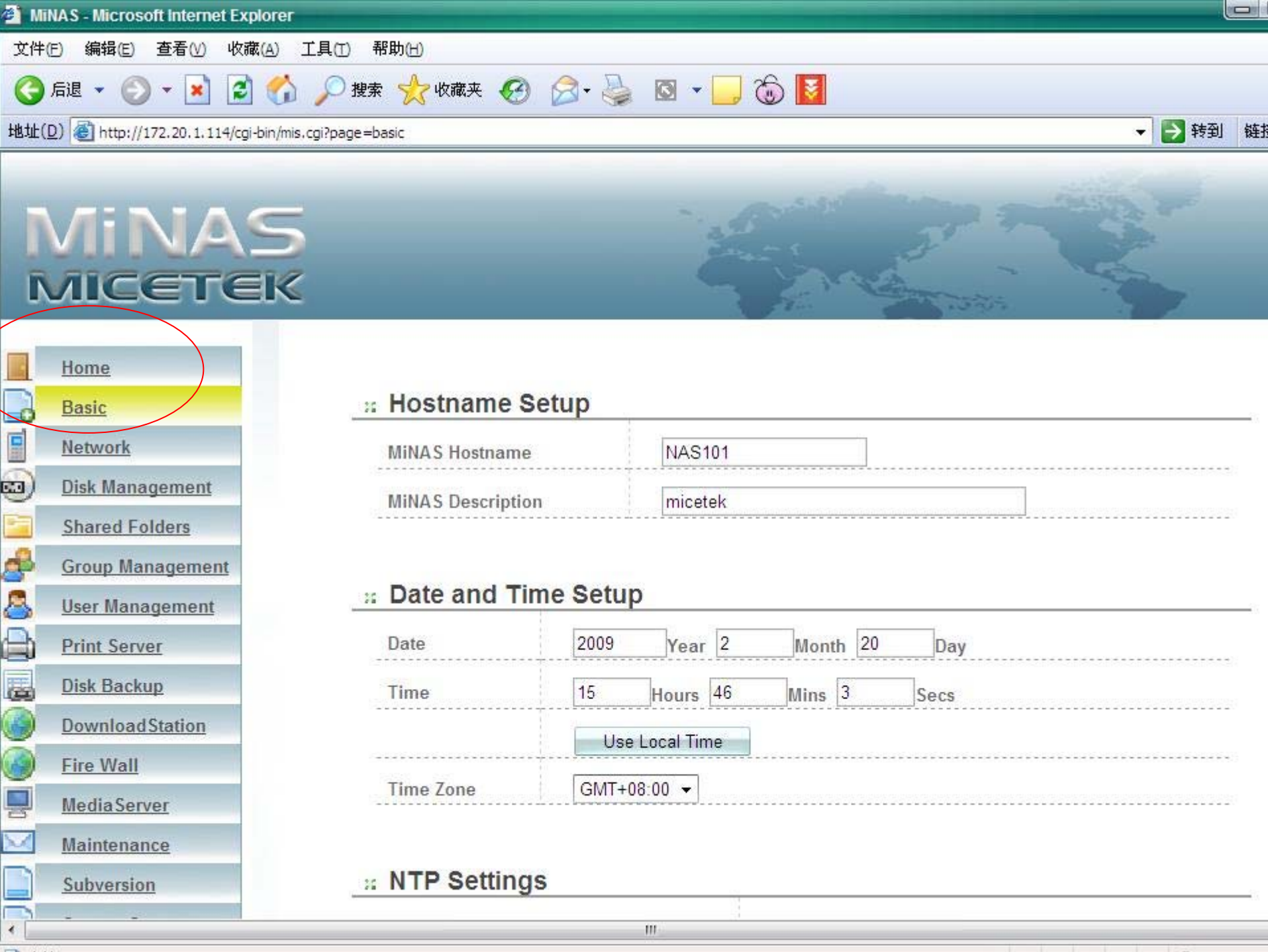
地址(D) http://172.20.1.114/cgi-bin/mis.cgi?page=top
转到
MiNAS
MICETEK
Home
Basic
Network
Disk Management
Shared Folders
Group Management
User Management
Print Server
Disk Backup
DownloadStation
Fire Wall
MediaServer
Maintenance
Subversion
System Status
Warning
Disk 1 is unformatted.
Disk 2 is not detected.
Disk 3 is not detected.
Disk 4 is not detected.
MiNAS Name
NAS101
IP Address
172.20.1.114
Current Date and Time
2009/2/20 15:45:6
HDD Space Used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MICETEK
Home
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Network
Disk Management
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User Management
Print Server
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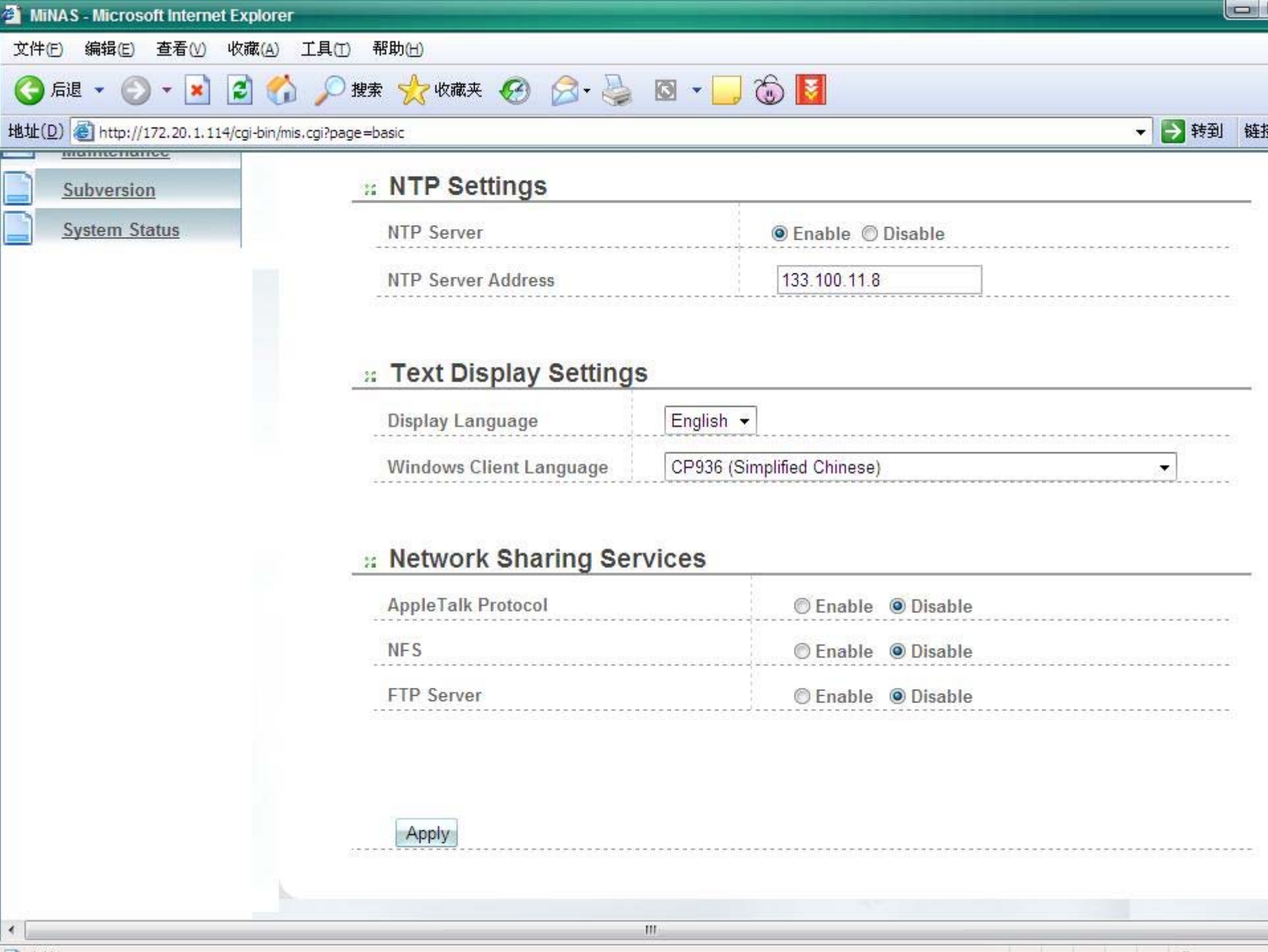
DownloadStation
Fire Wall
MediaServer
Maintenance
Subversion
Hostname Setup
MiNAS Hostname
NAS101
MiNAS Description
micetek
Date and Time Setup
Date
2009
Year
2
Month
20
Day
Time
15
Hours
46
Mins
3
Secs
Use Local Time
Time Zone
GMT+08:00
NTP Settings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收藏夹
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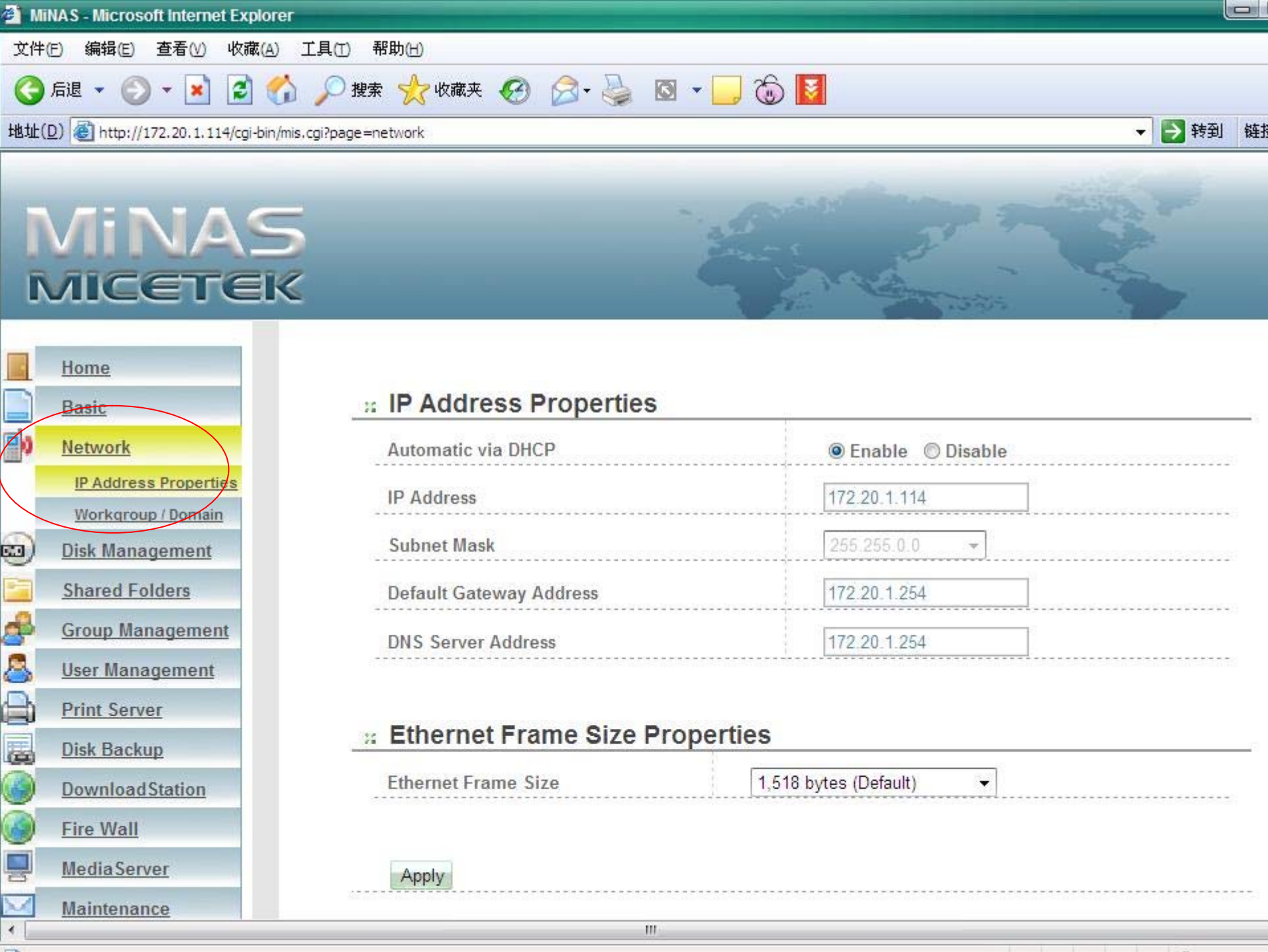
转到
Subversion
System Status
NTP Settings
NTP Server
Enable
Disable
NTP Server Address
133.100.11.8
Text Display Settings
Display Language
English
Windows Client Language
CP936 (Simplified Chinese)
Network Sharing Services
AppleTalk Protocol
Enable
Disable
NFS
Enable
Disable
FTP Server
Enable
Disable
Apply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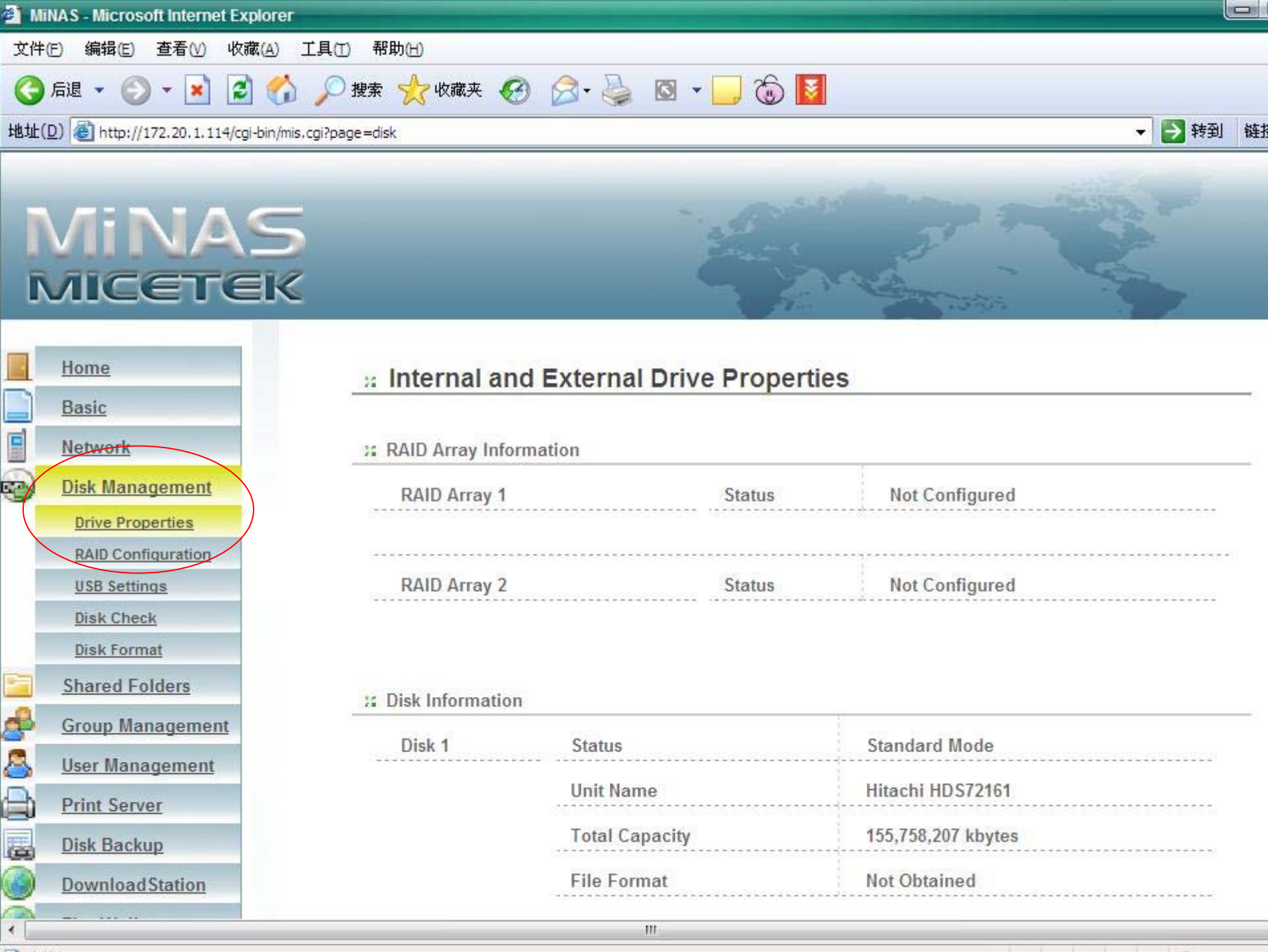
地址(D) http://172.20.1.114/cgi-bin/mis.cgi?page=network
转到
MiNAS
MICETEK
Home
Basic
Network
IP Address Properties
Workgroup / Domain
Disk Management
Shared Folders
Group Management
User Management
Print Server
Disk Backup
DownloadStation
Fire Wall
MediaServer
Maintenance
IP Address Properties
Automatic via DHCP
Enable
Disable
IP Address
172.20.1.114
Subnet Mask
255.255.0.0
Default Gateway Address
172.20.1.254
DNS Server Address
172.20.1.254
Ethernet Frame Size Properties
Ethernet Frame Size
1,518 bytes (Default)
Apply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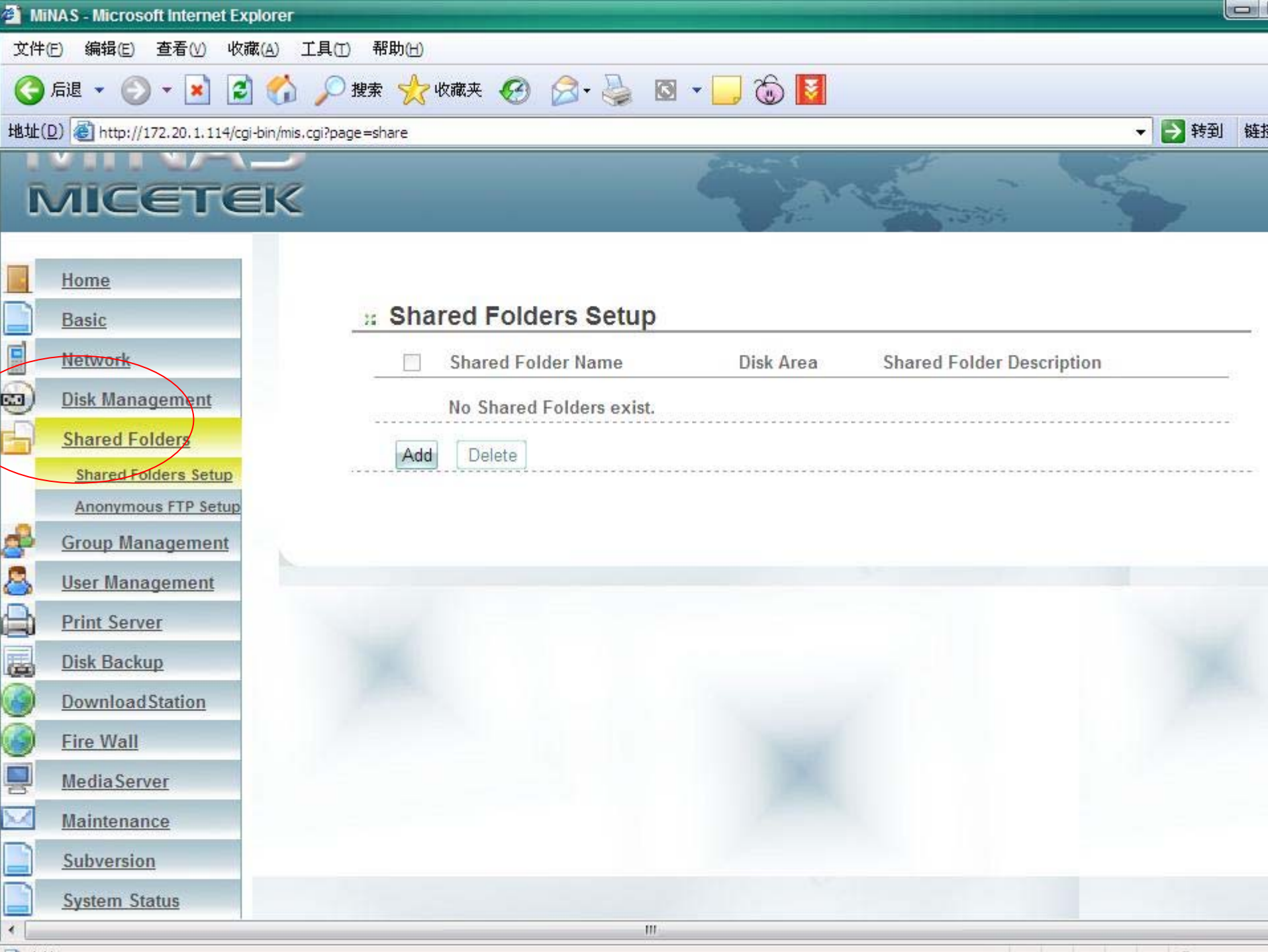
转到
MiNAS
MICETEK
Home
Basic
Network
Disk Management
Drive Properties
RAID Configuration
USB Settings
Disk Check
Disk Format
Shared Folders
Group Management
User Management
Print Server
Disk Backup
DownloadStation
Internal and External Drive Properties
RAID Array Information
RAID Array 1
Status
Not Configured
RAID Array 2
Status
Not Configured
Disk Information
Disk 1
Status
Standard Mode
Unit Name
Hitachi HDS72161
Total Capacity
155,758,207 kbytes
File Format
Not Obtained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地址(D) http://172.20.1.114/cgi-bin/mis.cgi?page=share
转到
MICETEK
Home
Basic
Network
Disk Management
Shared Folders
Shared Folders Setup
Anonymous FTP Setup
Group Management
User Management
Print Server
Disk Backup
DownloadStation
Fire Wall
MediaServer
Maintenance
Subversion
System Status
Shared Folders Setup
Shared Folder Name
Disk Area
Shared Folder Description
No Shared Folders exist.
Add
Delete


MiNAS - Microsoft Internet Explorer
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后退 搜索 收藏夹
地址(D) http://172.20.1.114/cgi-bin/mis.cgi?page=user
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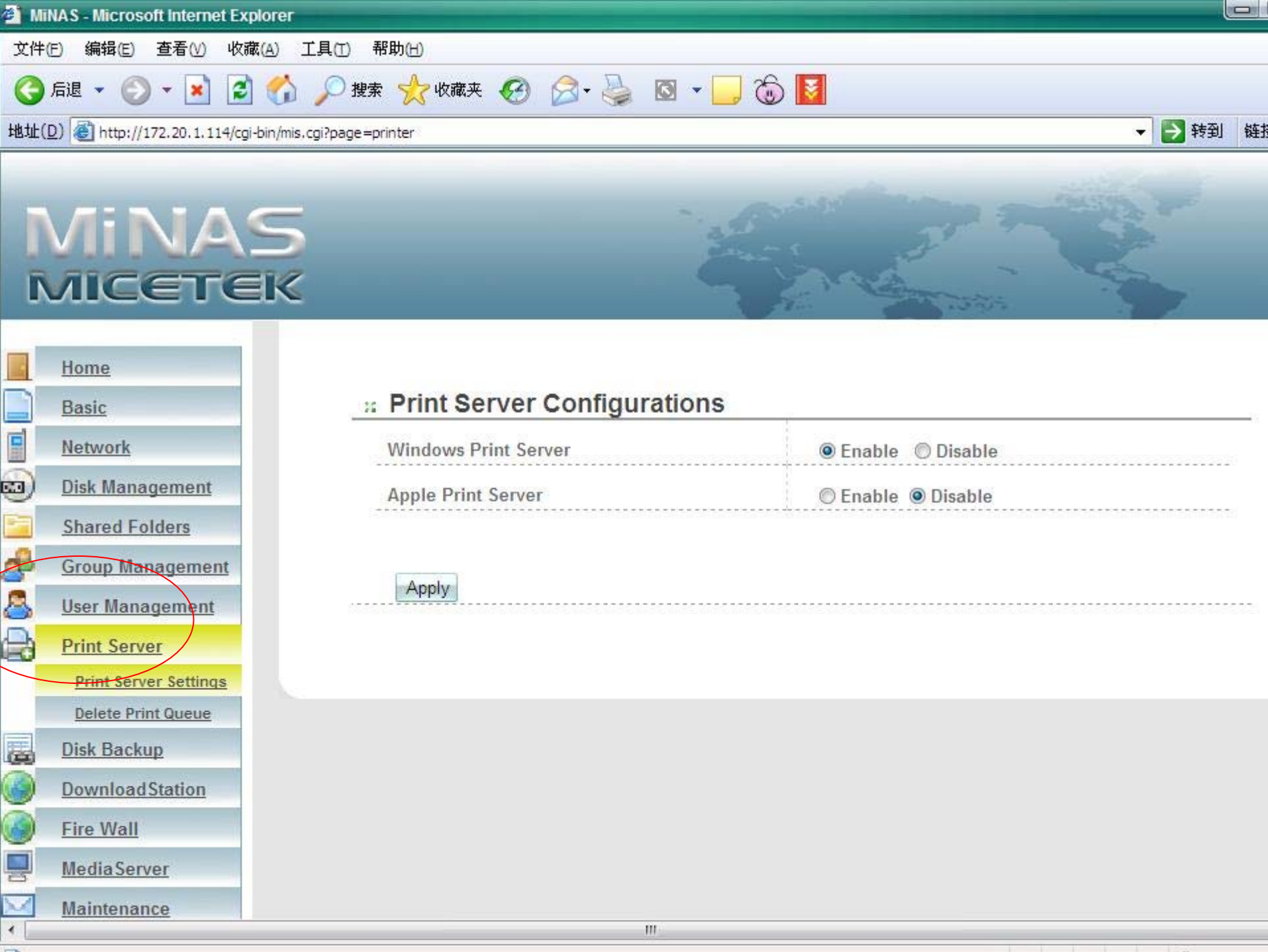
Disk Management
Shared Folders
Group Management
User Management
Print Server
Disk Backup
DownloadStation
Fire Wall
MediaServer
Maintenance
Subversion
User Settings
User Name
User Description
admin
Built-in account for administering the system
guest
Built-in account for guest access to the system
Add
Delete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地址(D) http://172.20.1.114/cgi-bin/mis.cgi?page=printer
转到
MiNAS
MICETEK
Home
Basic
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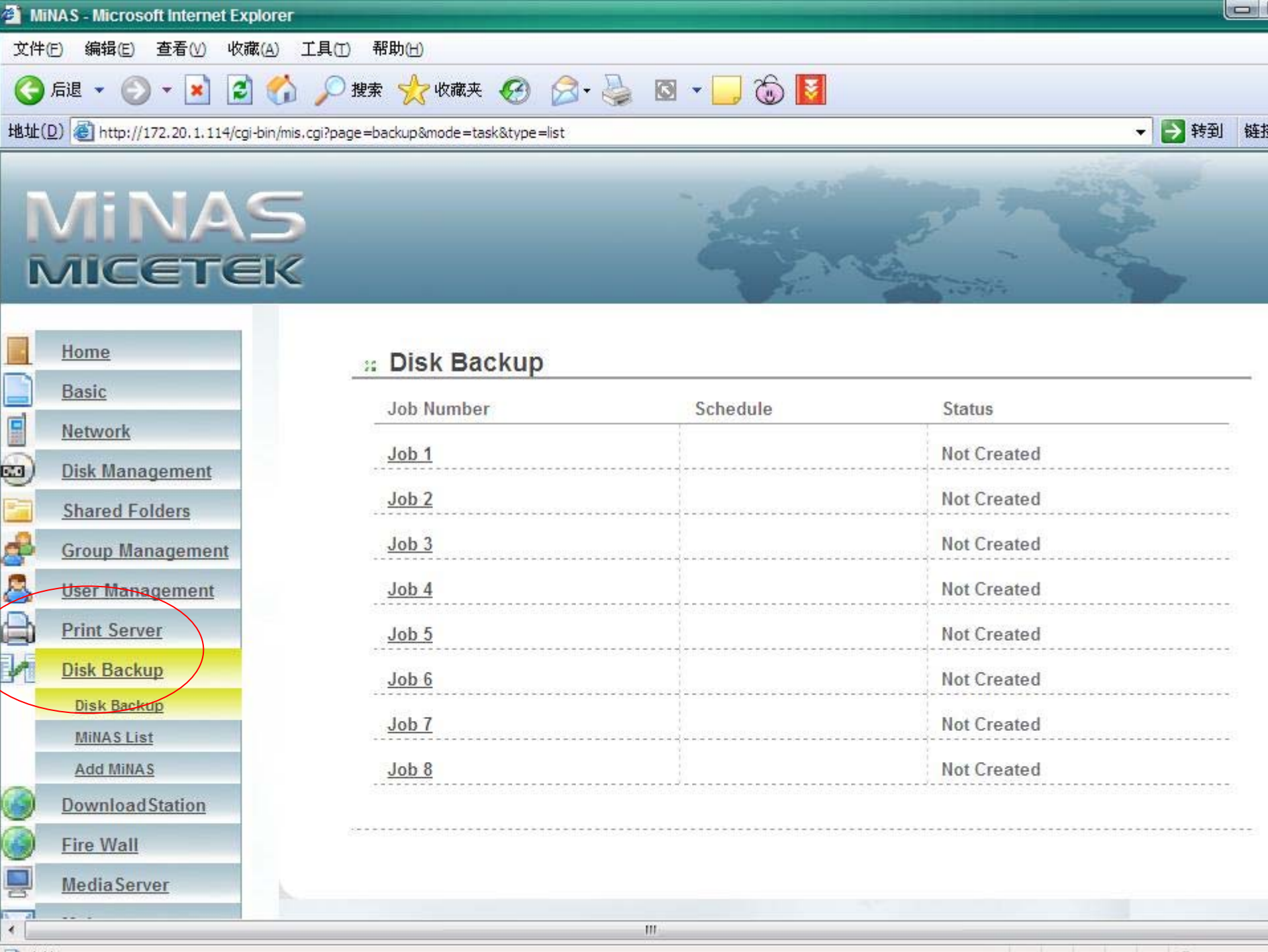
Disk Management
Shared Folders
Group Management
User Management
Print Server
Print Server Settings
Delete Print Queue
Disk Backup
DownloadStation
Fire Wall
MediaServer
Maintenance
Print Server Configurations
Windows Print Server
Enable
Disable
Apple Print Server
Enable
Disable
Apply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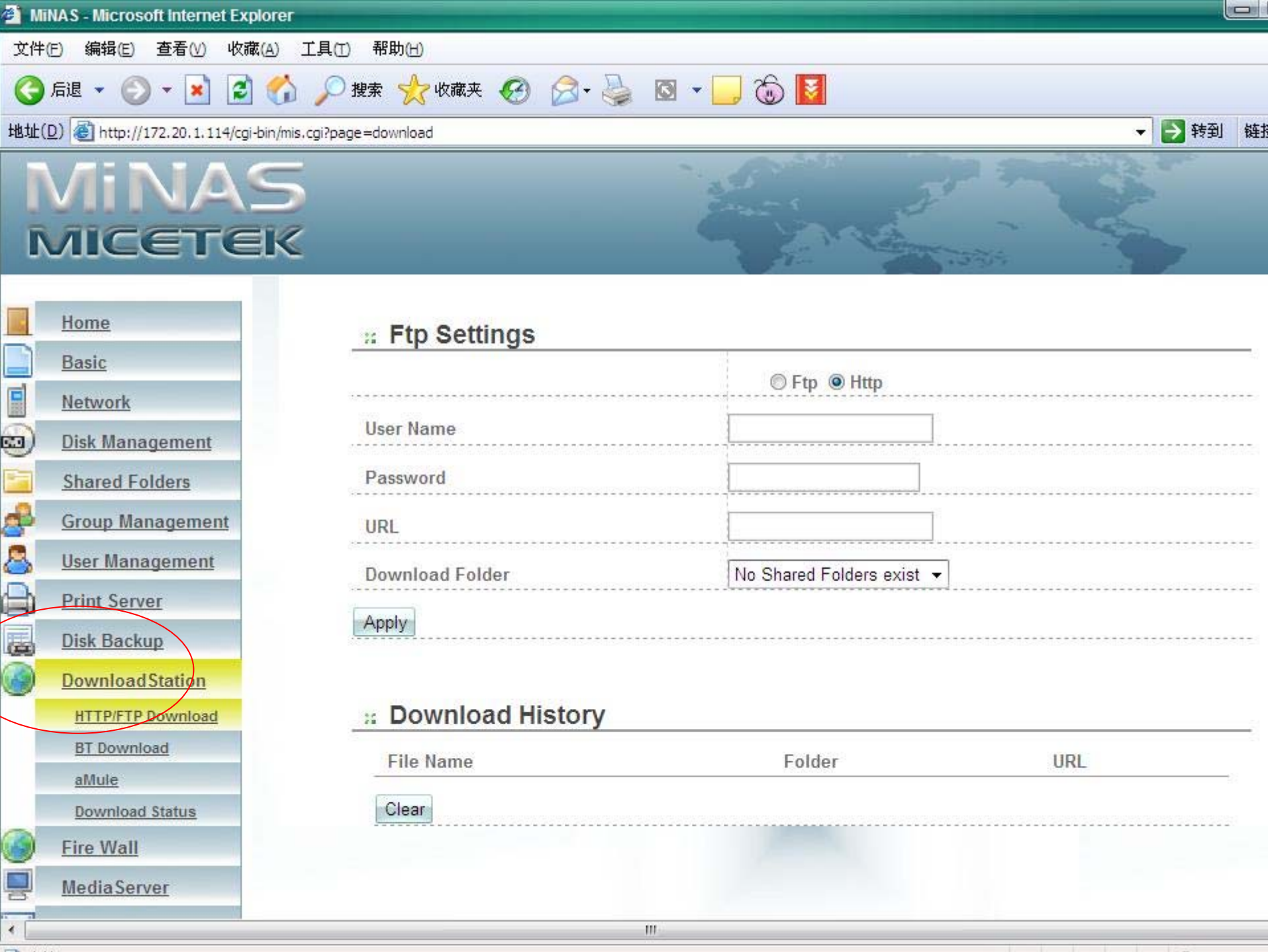
Disk Management
Shared Folders
Group Management
User Management
Print Server
Disk Backup
Disk Backup
MiNAS List
Add MiNAS
DownloadStation
Fire Wall
MediaServer
Disk Backup
Job Number
Schedule
Status
Job 1 Not Created
Job 2 Not Created
Job 3 Not Created
Job 4 Not Created
Job 5 Not Created
Job 6 Not Created
Job 7 Not Created
Job 8 Not Created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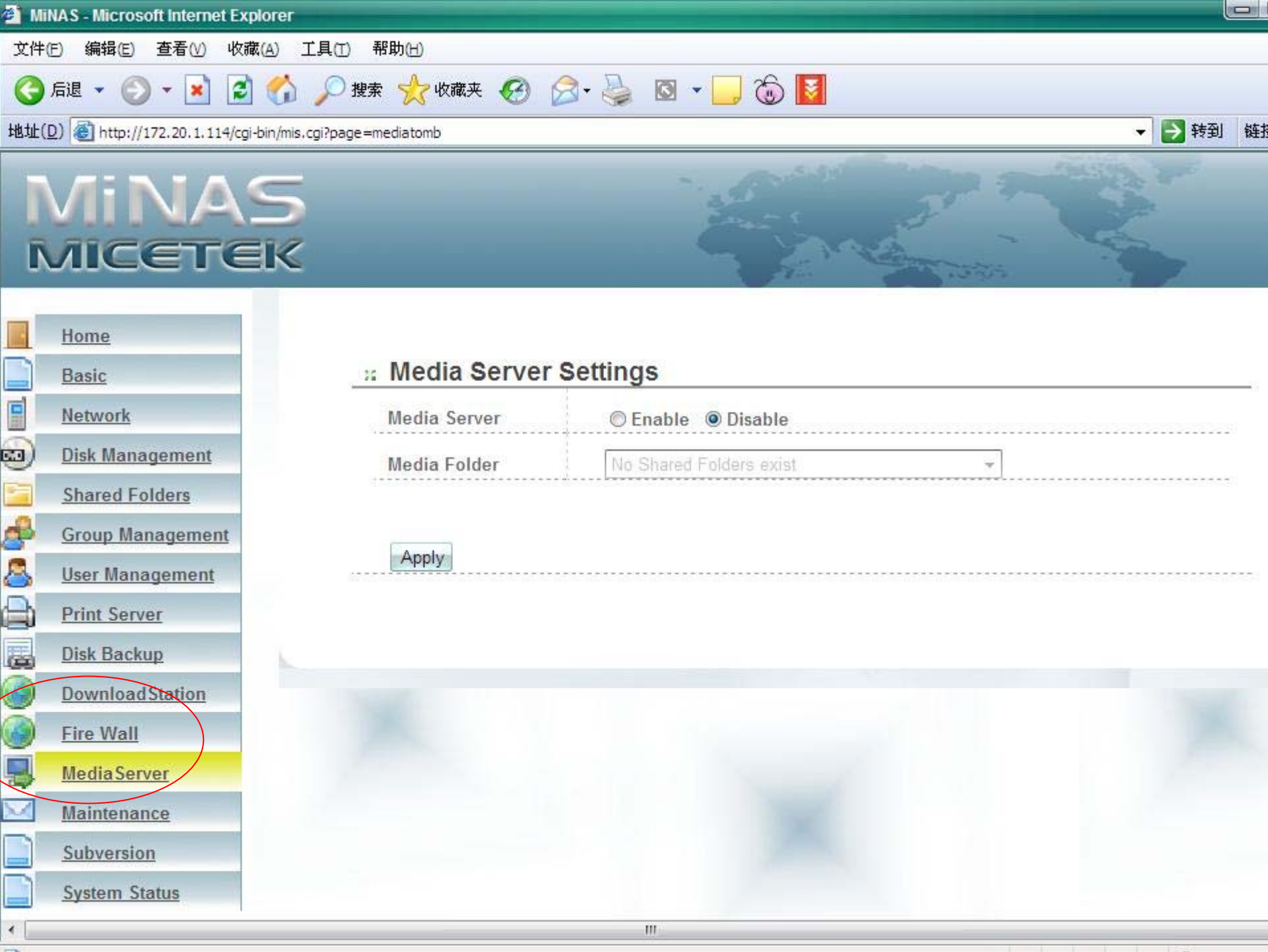
User Management
Print Server
Disk Backup
DownloadStation
HTTP/FTP Download
BT Download
aMule
Download Status
Fire Wall
MediaServer
Ftp Settings
Ftp
Http
User Name
Password
URL
Download Folder
No Shared Folders exist
Apply
Download History
File Name
Folder
URL
Clear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转到
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MICETEK
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Shared Folders
Group Management
User Management
Print Server
Disk Backup
DownloadStation
Fire Wall
MediaServer
Maintenance
Subversion
System Status
Media Server Settings
Media Server
Enable
Disable
Media Folder
No Shared Folders exist
Apply

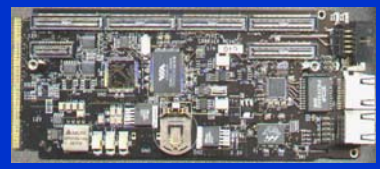
Development platform (Processor card + Carrier)

- MPC8572
- MPC8548E
- MPC8560
- MPC8555E
- MPC8541E
- MPC8540
- MPC8360
- MPC8347E
- MPC8343E

+

Type-S Network Storage application

Type-N Network communication application



Type-A ATCA or MicroTCA chassis

Advantages of using processor card

1) Processor card:
MPC8347E/MPC8541E/8560/8548E/8572E

2) Carrier: Type-N, Type-S and Type-A

Advantages of using processor card

- Flexibility
- Cost-effective
- Shortening of the design cycle
- Reusability
- Ease of Debug
- Standardized reference

PQ2Pro Processor Card

Applications:

Ethernet routers and switches, wireless LAN (WLAN) equipment, network storage, home network appliances

Features:

- Re-usable processor module for MPC8343E, MPC8347E, MPC8360E
- Up to 256Mbytes DDR SDRAM@266Mhz
- Up to 8Mbyte Flash with 8-bit port size
- Dual USB 2.0 Hi-Speed OTG Transceivers
- One 10/100/1000M bps Ethernet PHY
- One RS232 transceiver on board
- COP interface on board
- 6-layers PCB

MPC8541E/8560 processor card

Applications:

Telecommunications switching equipment, integrated access devices, Metro area networks, VPN and firewall routers and Branch office and enterprise routers

Features:

- CPU:e500, with the speed up to 1GHz, supporting MPC8540/41E/55E/60
- DDR333 SDRAM with optional ECC function
- Up to 16 MBytes flash memory at 8-bit port size in two banks
- Supporting 64 bit PCI-X interface up to 133MHz (Only for 8540 and 8560)
- Supporting 64 bit PCI interface up to 66 MHz
- Two PCI interfaces (PCI1 and PCI2) at 33/66MHz supported by PMC connector (Only for 8541E and 8555E)
- Two 10/100/1000Base-T Ethernet controllers
- One RS-232 serial port (Optional)
- One 10/100 Base-T Ethernet port (Optional)
- COP interface

MPC8548E processor card

Applications:

Ethernet-only or RapidIO interworking applications, such as enterprise networking, telecom transmission and switching and 3G wireless base-stations

Features:

- CPU: e500 core, the speed up to 1.5 GHz, DDR2 at 533Mhz SDRAM
- Up to 16 MBytes flash memory
- Memory Management Unit (MMU)
- Integrated security engine
- Support PCI and PCI-X interface:
  - 64bit PCI 2.2 bus controller (up to 66 MHz, 3.3V I/O)
  - 64bit PCI-X bus controller (up to 133 MHz, 3.3V I/O)
- TSEC1 and TSEC2 GMII, RGMII, TBI, RTBI interface
- One 10/100/1000M BaseT Ethernet interface, using TSEC3 RGMII interface
- Serial RapidIO and PCI Express interface, supporting one x8 PCI Express, or one x4 PCI Express and one 4x serial RapidIO
- One RS-232 serial port (Optional)
- COP port

MPC8572 processor card

Applications:

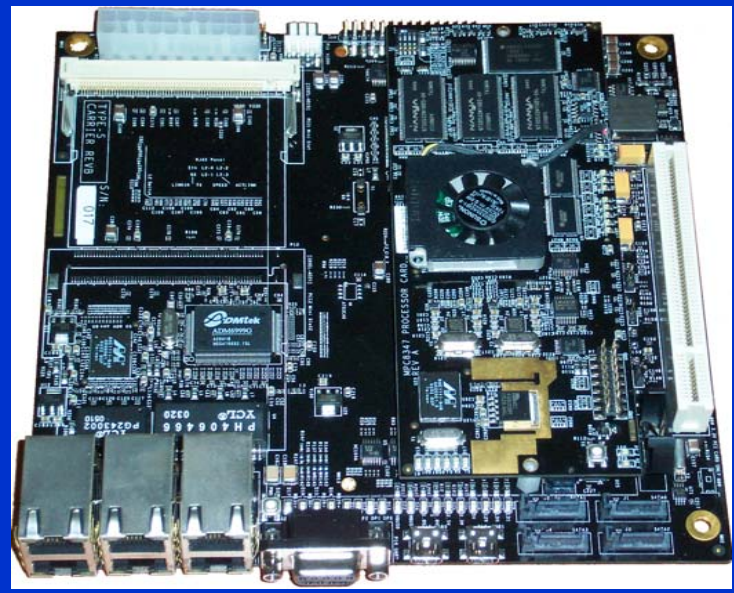
Networking (switches and routers) , Telecom (AMC card)

Features:

- CPU: MPC8572/E dual e500 cores, up to 1.7GHz
- DDR2 up to 533MHz, 8MBytes NOR flash memory, 32MBytes NAND flash memory
- eTSEC1 and eTSEC2 with GMII, RGMII, TBI, RTBI interfaces, eTSEC4 with RGMII, RTBI interface supported by board-to-board connector. (e.g. Type-N Carrier)
- One on board 10/100/1000 BaseT Ethernet port using eTSEC3 RGMII interface
- Other interfaces supported by board-to-board connectors
  - — 8 lanes SerDes1 interface can be configured to any combination from the I/O port selection including:
    - – PCI Express1 x8 mode, or PCI Express1 x4 and SRIO x4 mode, or PCI Express1 x4, PCI Express2 x2 and PCI Express3 x2 mode
  - — 4 lanes SerDes2 interface support 4 independent SGMII interfaces
  - — 32-bit Local Bus interface with four chip-selects and 24-bit address
- One RS-232 serial port
- COP port

PowerPC development platform for Networking Storage application

❑ Type-S carrier



Applications:

- NAS chassis,media server etc

Features:

- Supporting PQ2 Pro and PQ3 processor card, such as MPC8540/8541/8555/8560/8347
- Base board one GbE PHY plus one L2 switch
- Two USB 2.0 ports
- On board X4 SATA controller device
- Dual PCI interfaces with mini-PCI and PCI slots

PowerPC development platform for Networking communication application

❑ Type-N carrier

Applications:

- Router, gateway and firewall
- Industrial control, extend A/D, D/A, CAN bus, Video card and MODBus over Ethernet

Features:

- Supporting PQ2 pro and PQ3 processor card, such as MPC8540/8541/8555/8560/8548/8572
- Two Double Gigabit Ethernet port
- Two USB2.0 port
- Two PCI slot
- One X8 PCI-Express connector using SERDES interface (Only for MPC8548E)

PowerPC development platform for ATCA or MicroTCA chassis

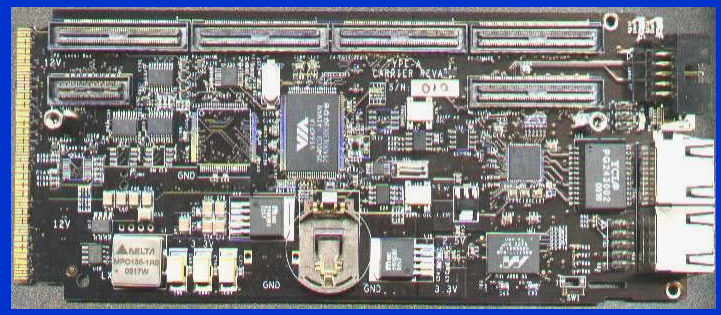
❑ Type-A carrier

Target Applications

AMC card, Advanced TCA or MicroTCA chassis

Features:

- Supporting PQ3 processor card, such as MPC8540/8541/8555/8560/8548/8572
- X8 SERDES interface for serial RapidIO and PCI Express
- One GBE SERDES interface, for AMC edge supported by TSEC1
- One 10/100/1000 BaseT copper interface, supported by TSEC2
- One 10/100/1000 BaseT Ethernet interface by TSEC3 (for MPC8548E,8572)
- One 33Mhz 32-bit PCI slot for mini PCI1 interface

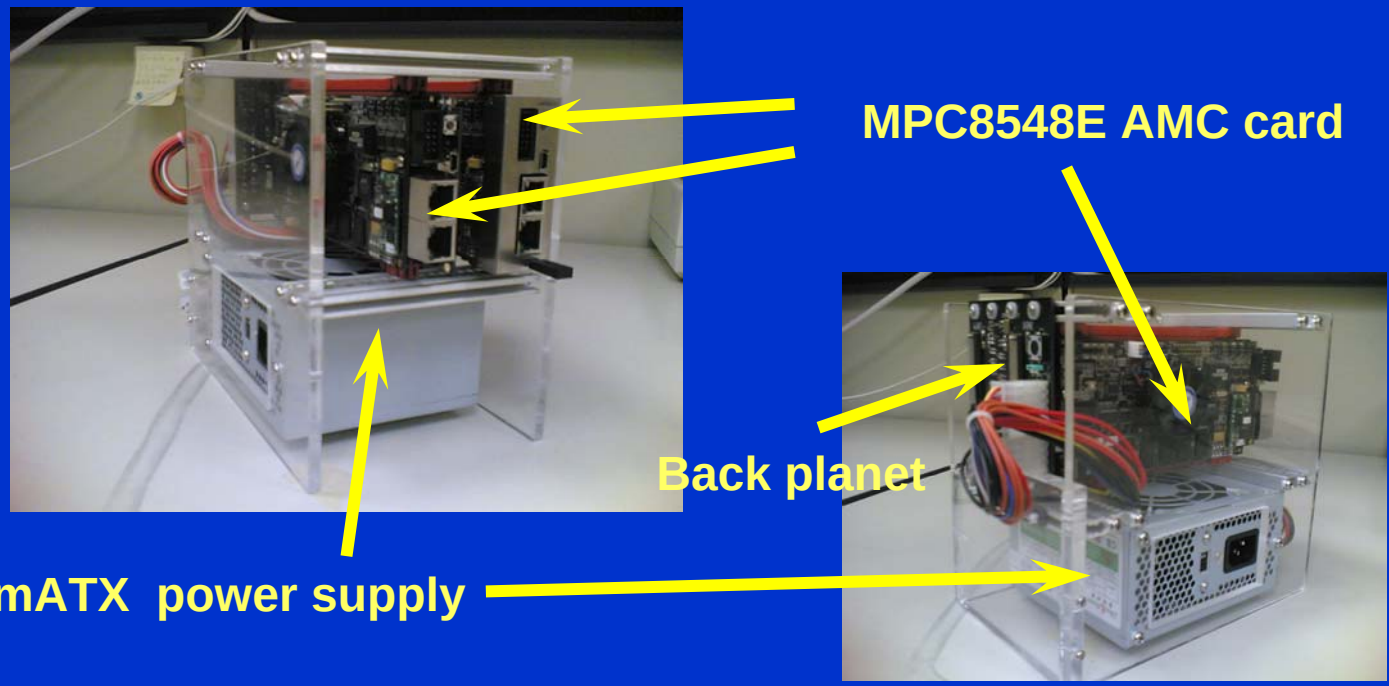


MicroTCA chassis

(enclosure + MPC8548EPC + Type-A carrier)

MicroTCA chassis includes enclosure, back planet, power supply.

Applications: Small LAN or outdoor system , such as wireless base-station, Wifi/WiMax RF box, next-generation DLCs and optical ADM.



Board support package (BSP)

- (1) Embedded Linux2.6x or 2.4 source code package
- (2) Board Support Packages
- (3) Uboot 1.1/2/4
- (4) PCI,USB2.0, GbEthernet,10/100 Ethernet drivers are available
- (5) GNU,GDB tool chains
- (6) Free schematic
- (7) Up& Running and user's manual
- (8) JediView for PowerPC IDE for evaluation

USB TAP

JTAG/COP/BDM In-circuit emulator (for PowerQUICC I, II, II pro & III)

USB TAP in-circuit emulator helps the developers save the design cycle during target bring-up and debugging.

Features:

- Support MPC8XX, MPC82XX, 83XX, 85XX, 86XX, 5XX, 51XX 52XX,7XXX family
- Support USB 2.0 download with the speed of up to 1.6Mbps
- Plug & Play without external power supply
- Flash memory programming
- Hardware diagnostics
- Low voltage: 1.8-3.3V
- Check the current status of registers in processor and memory through JediView for PowerPC
- Seamless integrated with JediView or CodeWarrior IDE

MICETEK
Embedded Development Tools Supplier

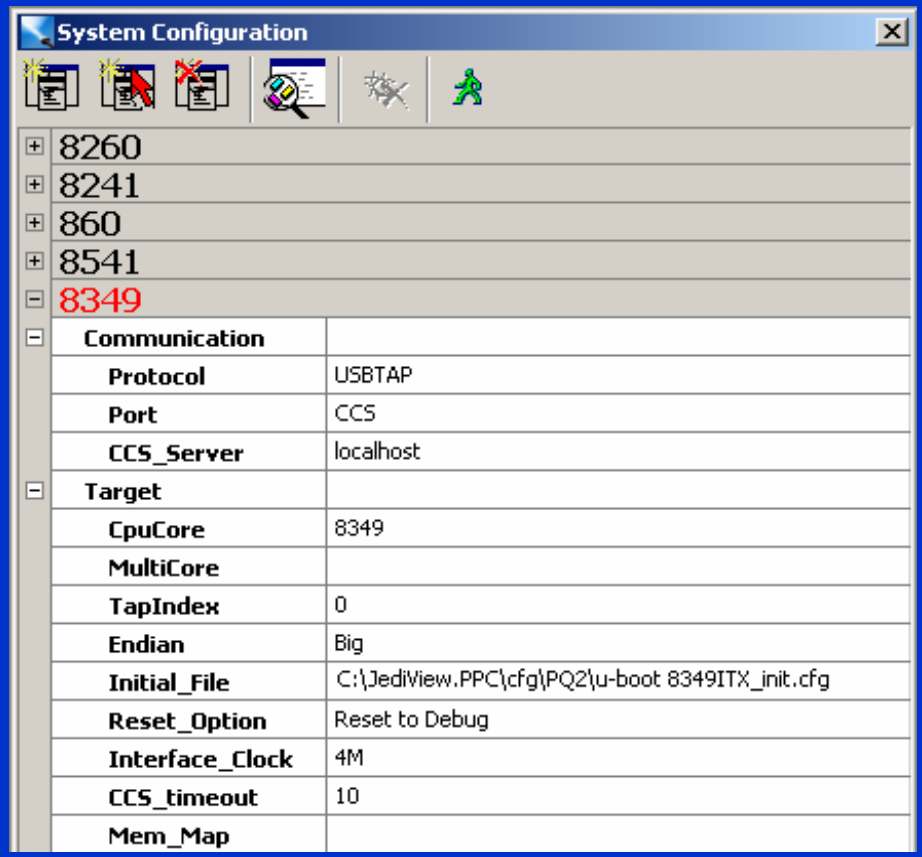
JediView for PowerPC IDE

- USB TAP can seamless integrated with JediView for PowerPC and Codewarrior for PowerPC IDE.
- Support many models of PowerPC processors, including MPC52xx, MPC8xx, MPC82xx, MPC83xx, MPC85xx, MPC86xx and Freescale's future products
- Abundant features: etc.
- Support more than 200 kinds of Flash. Furthermore, user can add flash type and flash to JediView according to our document.
- Without external power supply.
- Supply service of upgrading software and maintain the hardware for 90 days.

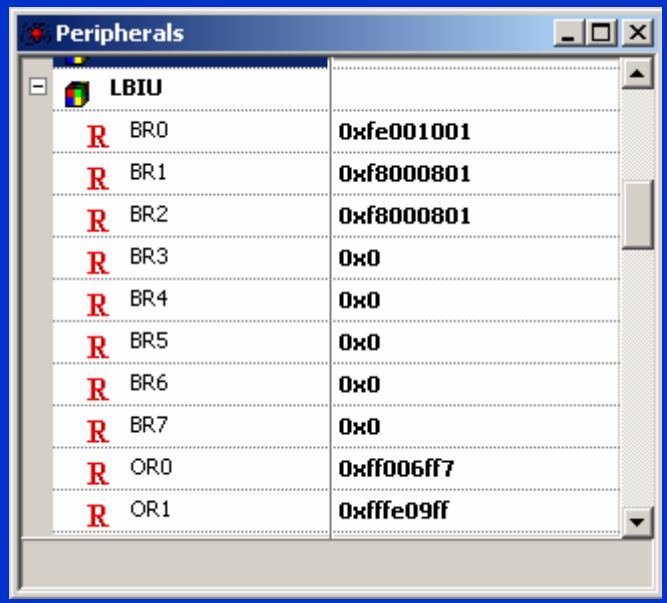
Flash programming

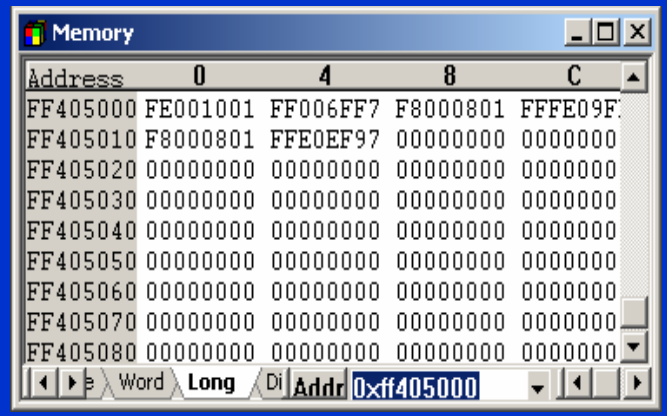
- Initial files
- Loading DLL files for programming flash
- Configuring the system
- Hardware diagnostics
- Setting in the flash programming windows
- Erasing flash and blank checking
- Flash programming and verifying

Flash Programming

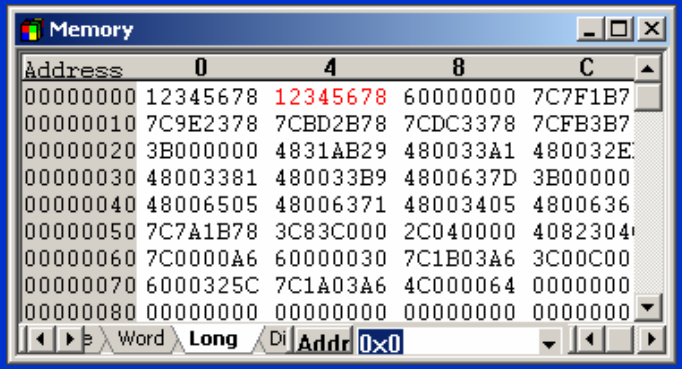


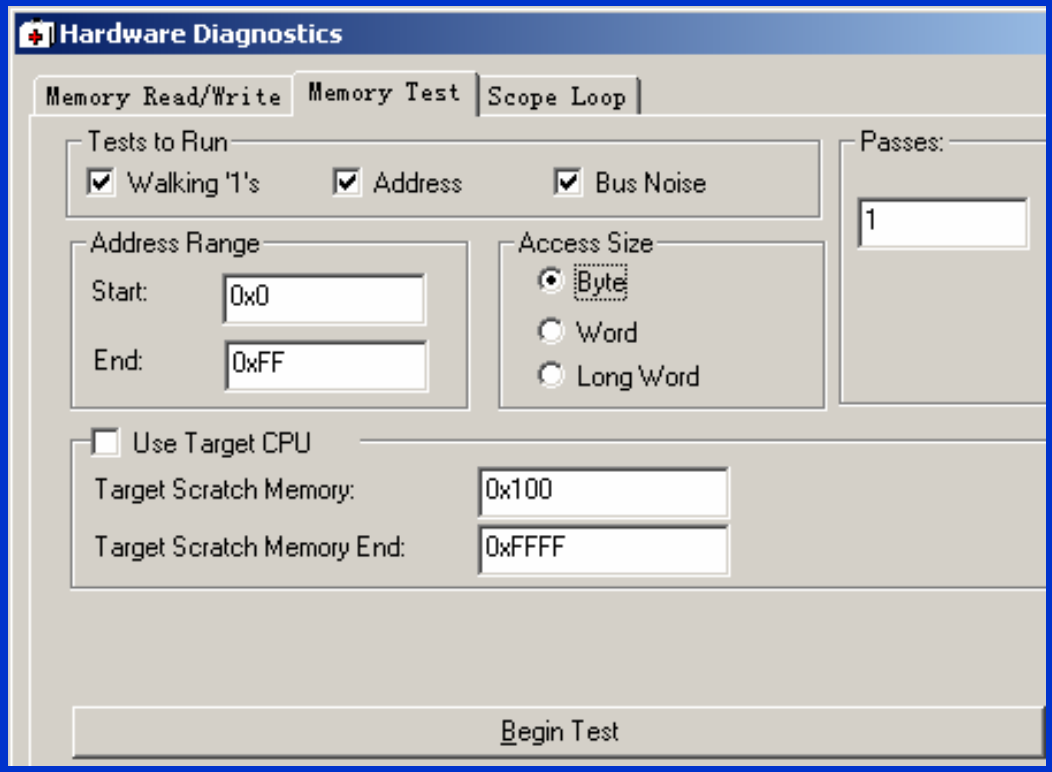
Start to Debug



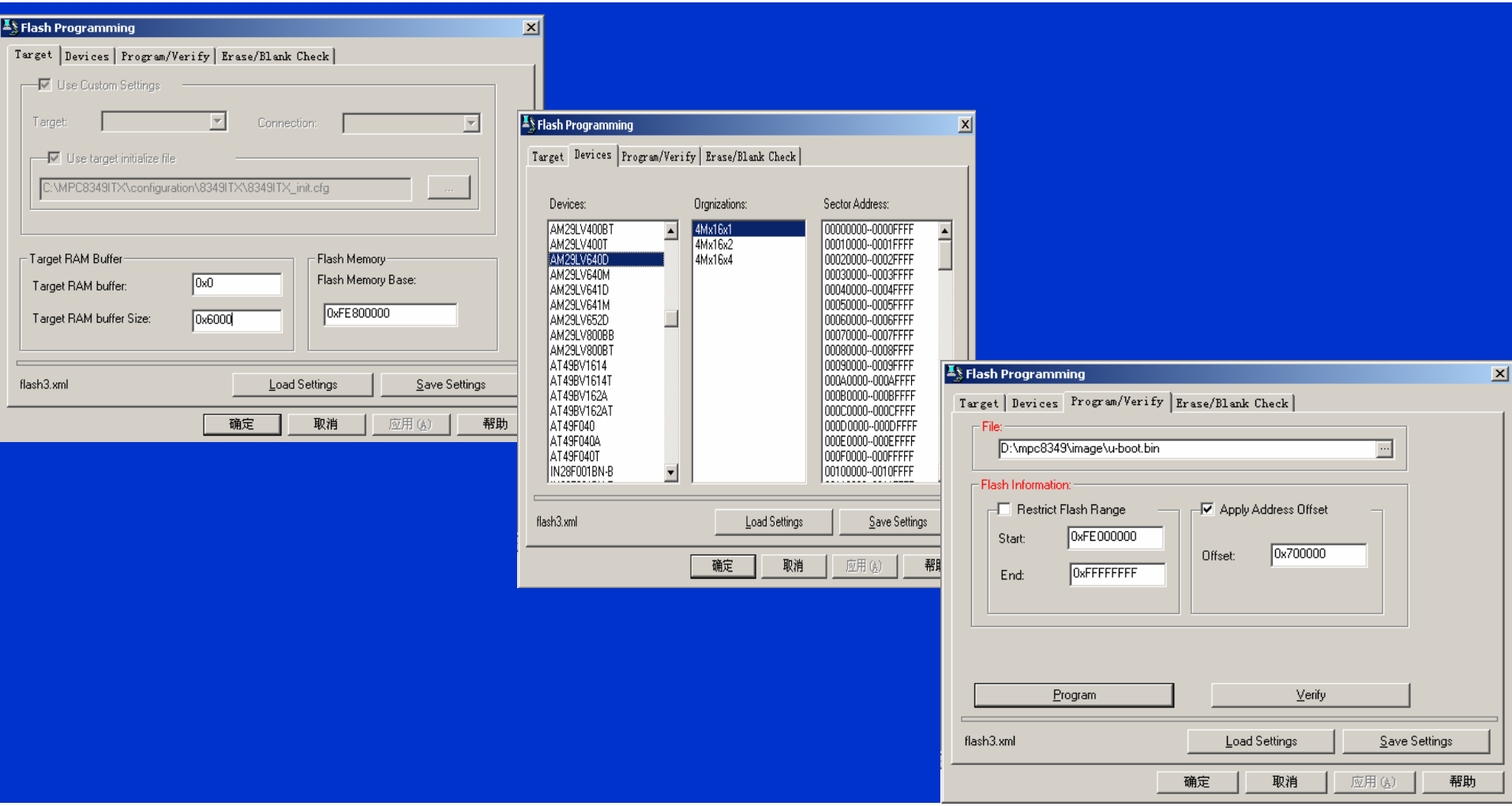


Hardware Diagnostics

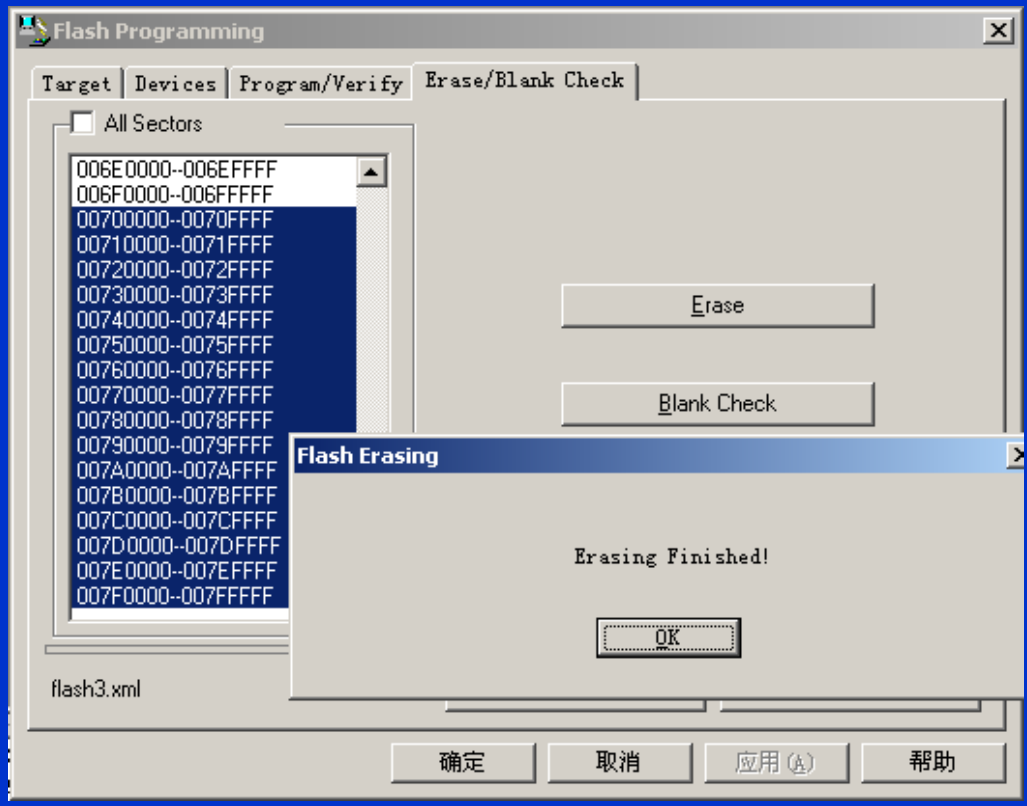




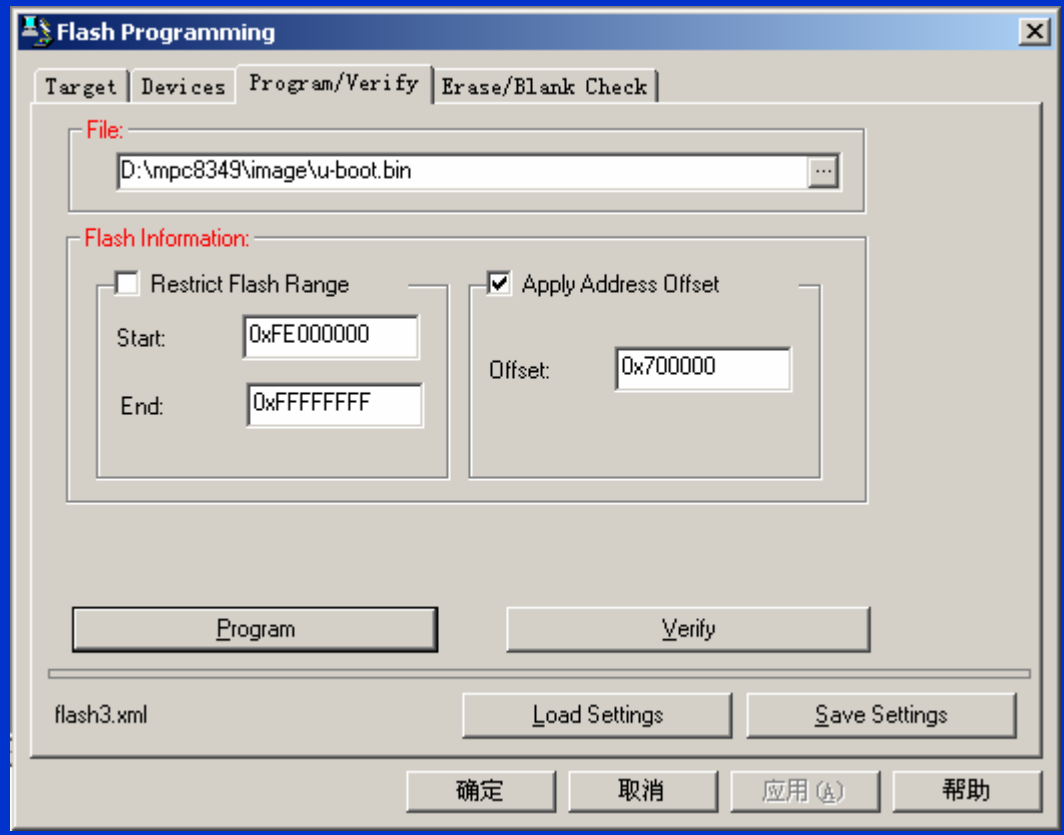
Setting in the Flash Programming Window

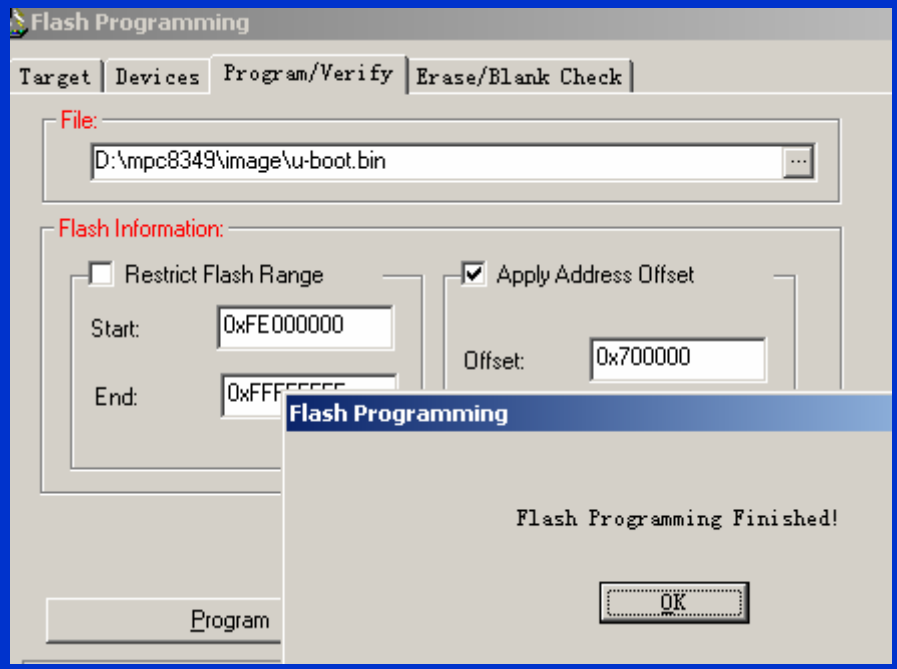


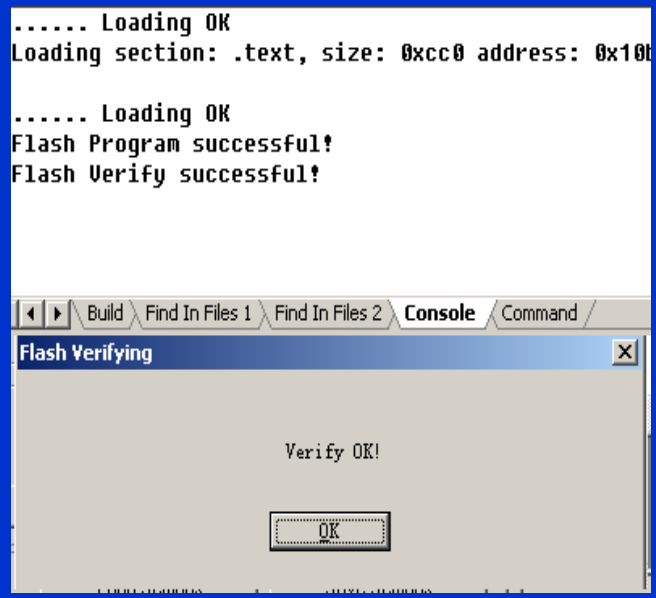
Erasing flash and blank checking



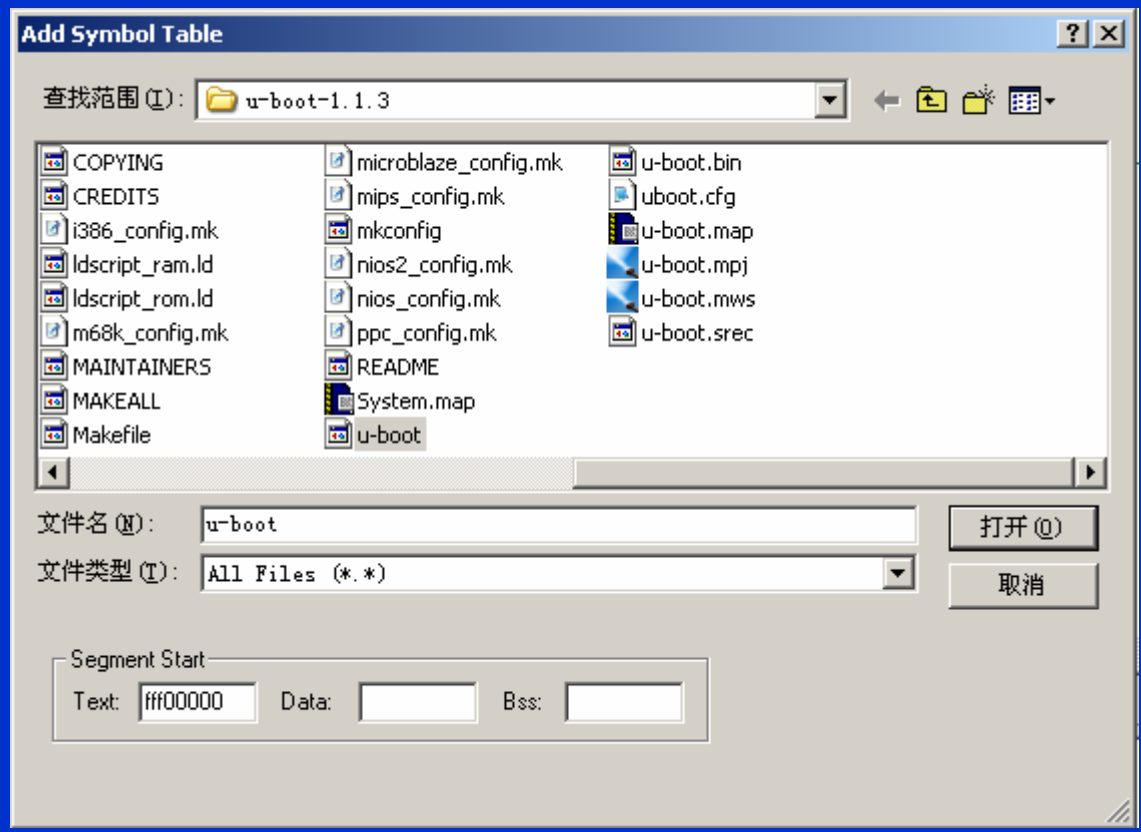
Flash programming and verifying



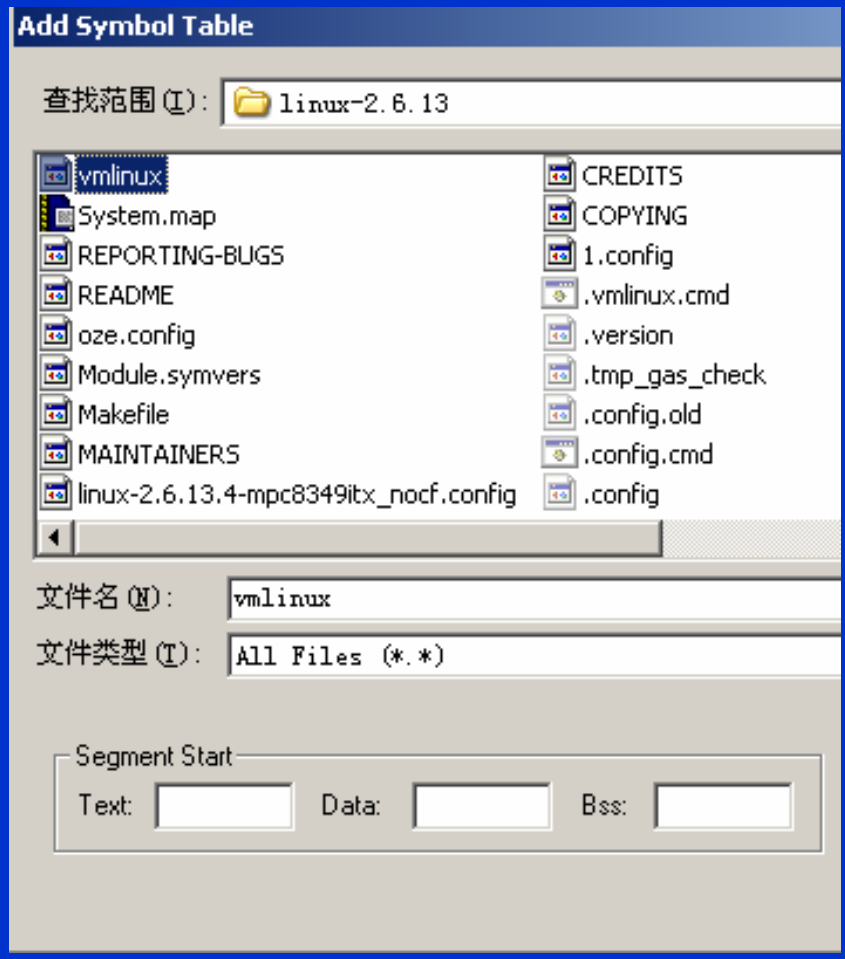




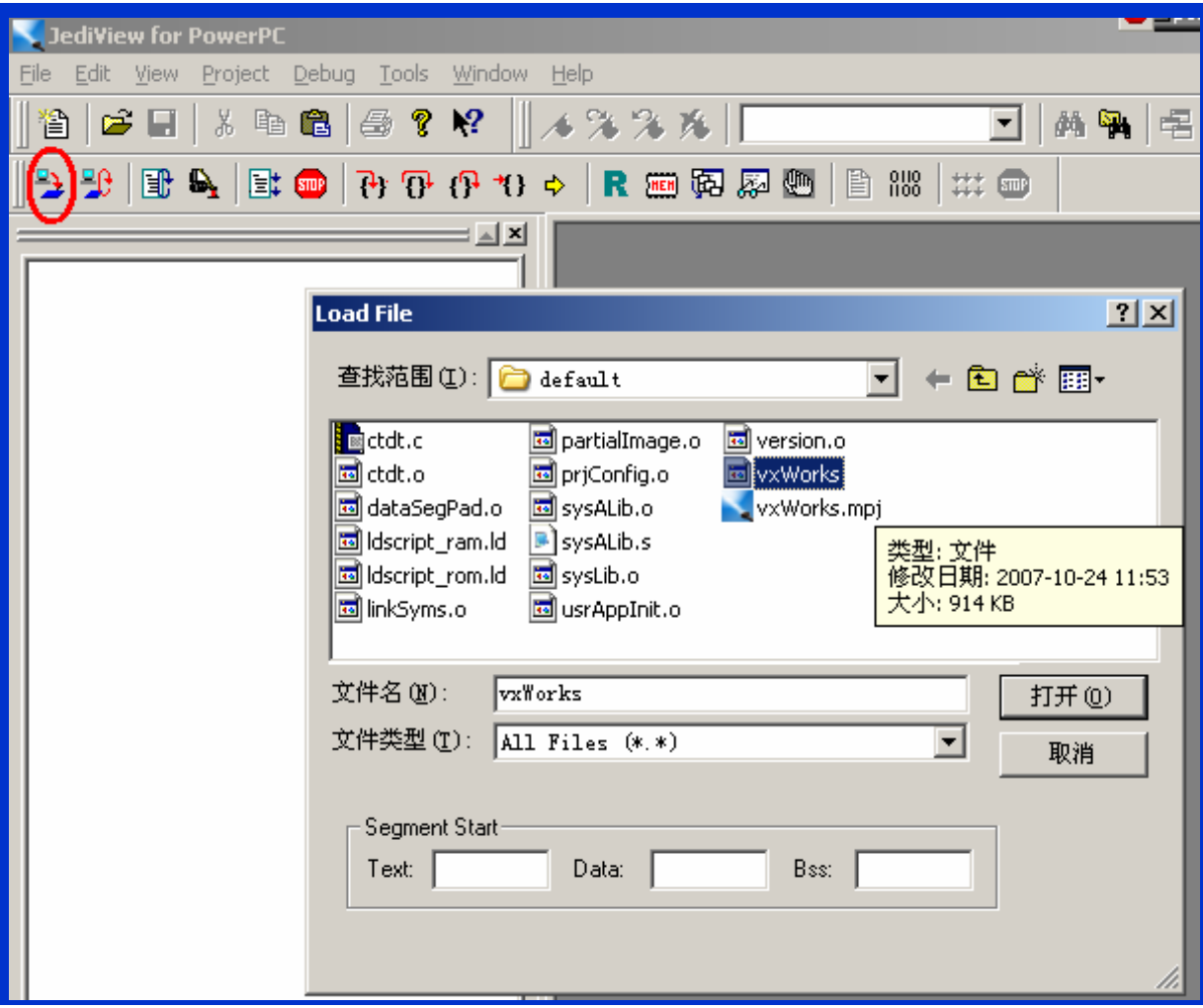
Debugging U-boot codes



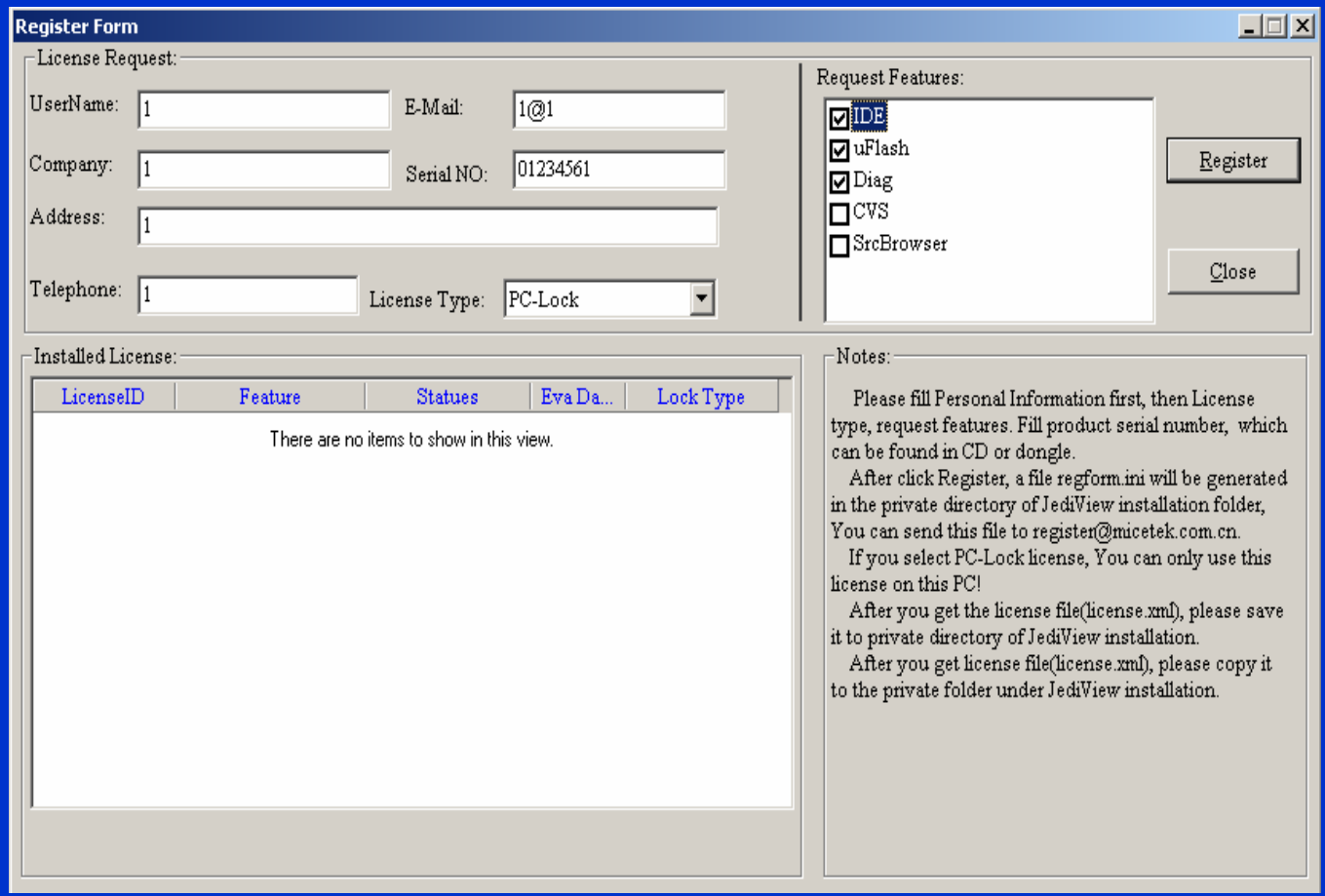
Debugging the Linux Codes in JediView



Debugging the VxWorks Codes in JediView



You can find and download the JediView evaluation version from www.micetek.com



For more information, please visit our website or contact us via international.sales@micetek.com.

Thank you!