

# Step-by-Step RHEL 5.8 Installation

## ★ Preparation

- Red Hat Enterprise Linux 5.8 installation CD.
- A PC with keyboard, mouse, monitor (e.g., HP Z640 Workstation).
- BIOS access.
- (Optional) NicSight 系统支持软件.rar installation package.

## 1. Enter BIOS Setup

- Turn on the PC and press Esc when the boot screen appears.
- Enter BIOS Setup → select the “**Main**” tab to check memory (record memory size for partitioning).
- Under Advanced > Device Configurations:
  - Set **SATA Controller Mode** and **sSATA Controller Mode** to AHCI.
  - Enable all remaining options.

## 2. Boot Order Settings

- Go to Boot Options in BIOS.
- In **Legacy Boot Order**, move **CDROM** to the top.
- Save and exit BIOS (Save Changes and Exit > Yes).

## 3. Boot from Installation CD

- Insert the RHEL 5.8 CD.
- System will restart and boot from CD.
- At the installation prompt, press Enter.

## 4. Begin Installation

- Skip CD media test (click **Skip**).
- Proceed through:
  - **Language Selection**: Simplified Chinese or your choice.
  - **Keyboard Layout**.
  - **Installation Number**: Skip and continue.
  - **Partition Table Warning**: Click **Yes** to create a new one.

## 5. Disk Partitioning

Select “Create custom layout” and create the following partitions:

1. **SWAP** – 2× RAM size (e.g., 32 GB for 16 GB RAM).
2. **/** – root mount point, ext3, at least 20–50 GB.
3. **/usr/local/rinsim** – ext3, at least 10 GB.
4. **/disk1** – ext3, remaining space or at least 30 GB.

## 6. Boot Loader & Network

- Use default **GRUB** settings.
- Skip or default network configuration (will be set later).
- Set timezone (e.g., Asia/Shanghai).
- **Set root password**: 11111111 (8 ones as per manual).

## 7. Package Selection

- Select all components under:
  - Desktop Environment
  - Development
  - Server
  - Basic System
- **Language Support**: Chinese + English.
- Use Ctrl + A to select all optional packages.

## 8. Install & Reboot

- Click **Next** and wait ~20 minutes for installation
  - When finished, remove CD and click **Reboot**.

## 9. First Boot Configuration

- Accept license.
  - Disable firewall.
  - Enable SELinux (or disable based on use).
  - Date & time settings (manual sync, no NTP).
  - Skip software updates (defer registration).
  - Create user:
    - Username: ios
    - Password: 111111 (6 ones)
  - Skip or finish sound and printer setup.

## 10. Login

- Login as root.
  - On the login screen, change session to KDE.
  - Use root password: \*\*\*\*\*.

You'll land on the KDE desktop. RHEL 5.8 installation is complete. System configuration and NicSight installation come next.

|||||

# **Resumé of NicSys2000 Platform System and Support Software Installation Manual**

1.

- **Purpose:** The document provides detailed instructions for installing and configuring the NicSight software, part of the NicSys2000 platform, a non-safety-grade DCS system for nuclear power applications.
  - **Target Audience:** Installation personnel with basic Linux knowledge.
  - **Environment:**
    - **OS:** RedHat Enterprise Linux 5.8.
    - **Hardware:** HP Z640 Workstation (example), with optional configurations for other devices like HP DL560 servers.

## 2. Key Components

- **Software Packages:**
    - RedHat Linux 5.8 OS.
    - NicSight system support software (e.g., DCS\_HMI.tar.gz, rinsim\_141118.tar.gz).
    - MySQL database files (simdcs\_example.dump).
    - Optional: NVIDIA GPU drivers, Qt libraries, and MySQL management tools (phpMyAdmin).
  - **Hardware Requirements:**
    - Workstations/servers (e.g., HP Z640, DL560).
    - Peripheral devices (monitors, keyboard, mouse).

### **3. Installation Steps Summary**

## 1 OS Installation

- BIOS setup (e.g., boot from CD, memory check).
  - Disk partitioning (swap, root /, /usr/local/rinsim, /disk1).
  - Basic OS configuration (language, keyboard, timezone).
  - Root password: 11111111; create user ios (password: 1111111)

## **2. System Configuration:**

- Network setup (IP, hostname, gateway).
- User permissions (ios home directory: /disk1/DCS\_HMI/s3/io).
- Enable/disable services (e.g., start mysqld, httpd; stop sendmail).
- Optional: Printer setup, automatic login for ios.

## **3. Software Environment Setup:**

- Extract DCS\_HMI.tar.gz to /disk1 and set permissions.
- Install rinsim engine to /usr/local/rinsim.
- GPU driver installation (required for OWP/POP).
- Qt library setup and SQL drivers.
- MySQL database creation (simdcs) and import of example data.

## **4. Runtime Configuration:**

- Dual NIC bonding (for redundancy).
- Cache cleanup scripts.
- Multi-display setup (using NVIDIA settings).

## **4. Appendices**

- **Appendix 1:** Hostname and IP allocation table (e.g., owp-101 = 192.168.11.101).
- **Appendix 2:** List of support software files (e.g., fontconfig-2.7.0.tar.gz, liblictool.so).
- **Appendix 3:** NicSight software modules (OWP, POP, CS, PS).

## **5. Key Notes**

- **Security:** The document is proprietary; unauthorized use is prohibited.
- **Flexibility:** Adjust steps based on actual hardware (refer to network topology/hostname tables).
- **Post-Installation:** NicSight-specific configurations (e.g., engineering data) are covered in other manuals.

## **Extracted Use Cases**

1. **For OWP/POP Stations:** Focus on GPU driver installation and multi-display setup.
2. **For Servers (PS/CS/HS):** Emphasize MySQL, NIC bonding, and service configurations.
3. **Common Steps:** OS installation, DCS\_HMI setup, and user permissions.