

M40 Internet Backbone Router

Perform Initial Software Configuration

- Turn on the power to the management device connected to the router.
- Turn both of the circuit breakers ON to boot the router. The **CB ON** and **OUTPUT OK** LEDs should light on the power supplies.
- On the management device, monitor the startup process to verify that the router has booted properly.
- Configure the router as shown in the table below. Text you enter literally is shown in **bold**, and variables for which you substitute specific values are shown in *italics*.

Step	CLI
1. Power on the router.	
2. Log in as "root" user. There is no password.	
3. Start the CLI.	root# cli root@>
4. Enter configuration mode.	cli > configure [edit] root@#
5. Configure the name of the router. If the name includes spaces, enclose the entire name in quotation marks (" ").	[edit] root@# set system host-name <i>host-name</i>
6. Configure the router's domain name.	[edit] root@# set system domain-name <i>domain-name</i>
7. Configure the IP address and prefix length for the router's Ethernet management interface.	[edit] root@# set interfaces fxp0 unit 0 family inet address <i>address/prefix-length</i>
8. Configure the IP address of a backup router, which is used only while the routing protocol process is not running.	[edit] root@# set system backup-router <i>address</i>
9. Configure the IP address of a DNS server.	[edit] root@# set system name-server <i>address</i>
10. Set the root password, entering a clear-text password. (It is also possible to use an encrypted password or an SSH public key string. For details see the JUNOS software manuals.)	[edit] root@# set system root-authentication plain-text-password New password: <i>enter password</i> Retype new password: <i>reenter password</i>
11. Optionally, display the configuration statements to verify that the configuration is correct.	[edit] root@# show system { host-name <i>host-name</i> domain-name <i>domain-name</i> backup-router <i>address</i> name-server { <i>address</i> ; } interfaces { fxp0 { unit 0 { family inet { <i>address address</i> ; } } } } }
12. Commit the configuration. This activates the configuration on the router.	[edit] root@# commit
13. Configure additional properties by adding the necessary configuration statement, then commit the changes to activate them on the router.	[edit] root@host-name# commit
14. When you have finished configuring the router, exit configuration mode.	[edit] root@host-name# exit root@host-name>



Safety Warnings

- Only trained and qualified personnel should install or replace the router.
- Perform only the procedures illustrated on this poster or described in the M40 Internet Backbone Router Hardware Installation Guide. Other services should be performed by authorized service personnel only.
- Read the installation instructions before you connect the router to a power source.
- Before installing the router, read the guidelines in the "Prepare the Site" section of the *M40 Internet Backbone Router Hardware Installation Guide*, to make sure that the site meets power, environmental, and clearance requirements for the router.
- When installing the router, do not use a ramp inclined at more than 10 degrees.
- Manually installing the router requires two people to lift and a third person to secure the mounting screws. Before lifting the chassis, remove components and attach the installation lifting handles as described in the *M40 Internet Backbone Router Hardware Installation Guide*. To prevent injury, keep your back straight and lift with your legs, not your back. Do not attempt to lift the chassis by the power supply handles.
- The router should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting the router in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the router in the rack.
- When removing or installing an electrical component, always place it component-side up on a flat antistatic surface, or in an electrostatic bag.
- When installing the router, the ground connection must always be made first and disconnected last.
- Use copper conductors only.
- For routers equipped with DC power supplies, wire the power supplies using the appropriate lugs. When connecting power, the proper wiring sequence is ground to ground, +RTN to +RTN, then -48 V to -48 V. When disconnecting power, the proper wiring sequence is -48 V to -48 V, +RTN to +RTN, then ground to ground. Note that the ground wire should always be connected first and disconnected last.
- Do not work on the system or connect or disconnect cables during electrical storms.
- Before working on equipment that is connected to power lines, remove jewelry, including rings, necklaces, and watches. Metal objects heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.
- Failure to observe these safety warnings could result in serious physical injury.

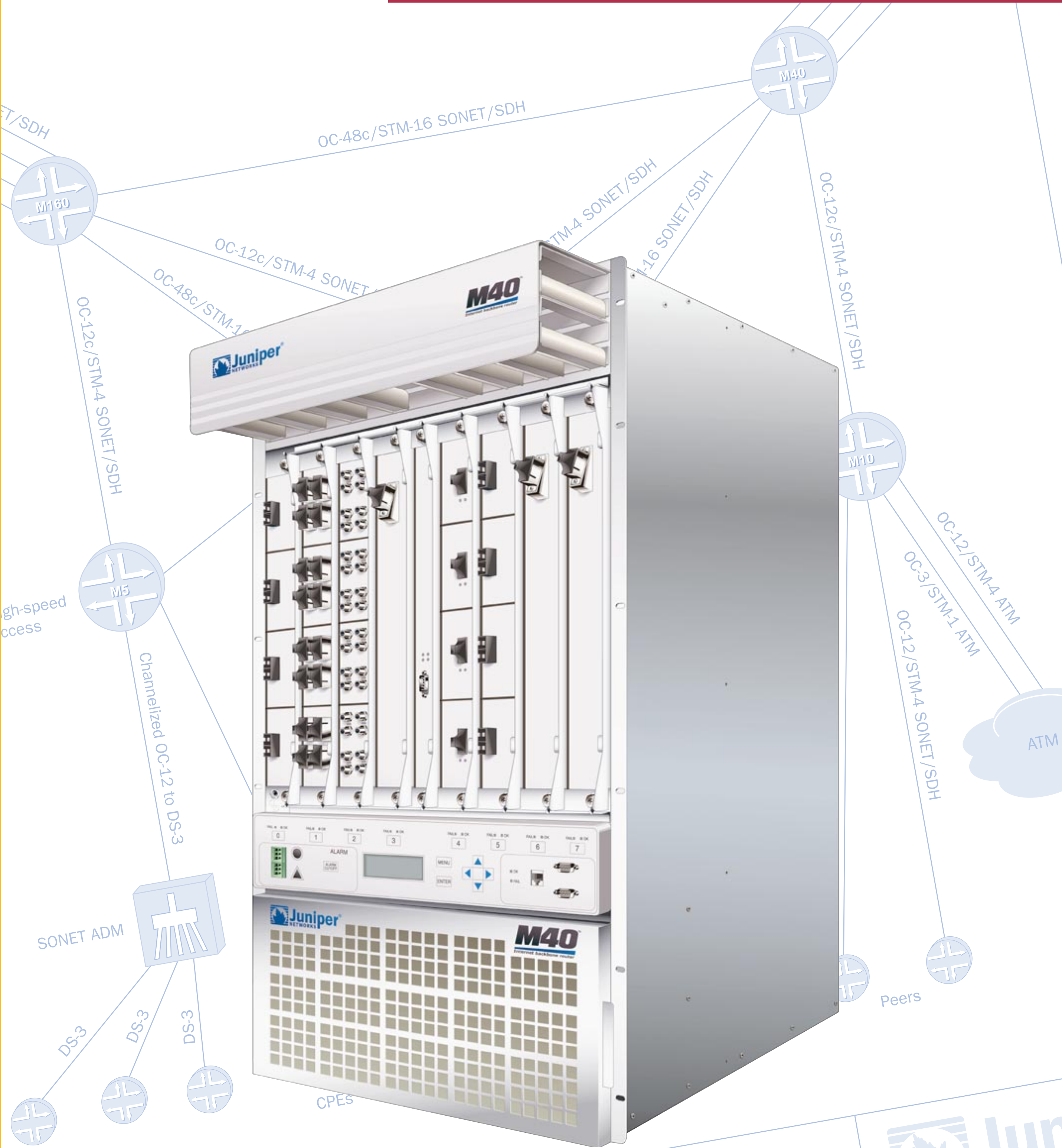
www.juniper.net

For support issues, contact the Juniper Technical Assistance Center (JTAC) at 1-888-314-JTAC (within the United States) or 408-745-2121 (from outside the United States). For other contact information, refer to www.juniper.net/contactus.html.

Juniper Networks is a registered trademark of Juniper Networks, Inc. JUNOS, JUNOScript, Internet Processor II, M5, M10, M20, M40, and M160 are trademarks of Juniper Networks, Inc. All other trademarks, service marks, registered trademarks, or registered service marks may be the property of their respective owners. All specifications are subject to change without notice. Copyright © 2001, Juniper Networks, Inc. All rights reserved. Printed in USA

Part Number 530-003807-01 01/01

M40 Internet Backbone Router



DESCRIPTION

Project 62 (Draft)

DOC REVISION

DRAWN BY

Professional Services

PAGE

1 of 1



Tools You'll Need to Install the Router

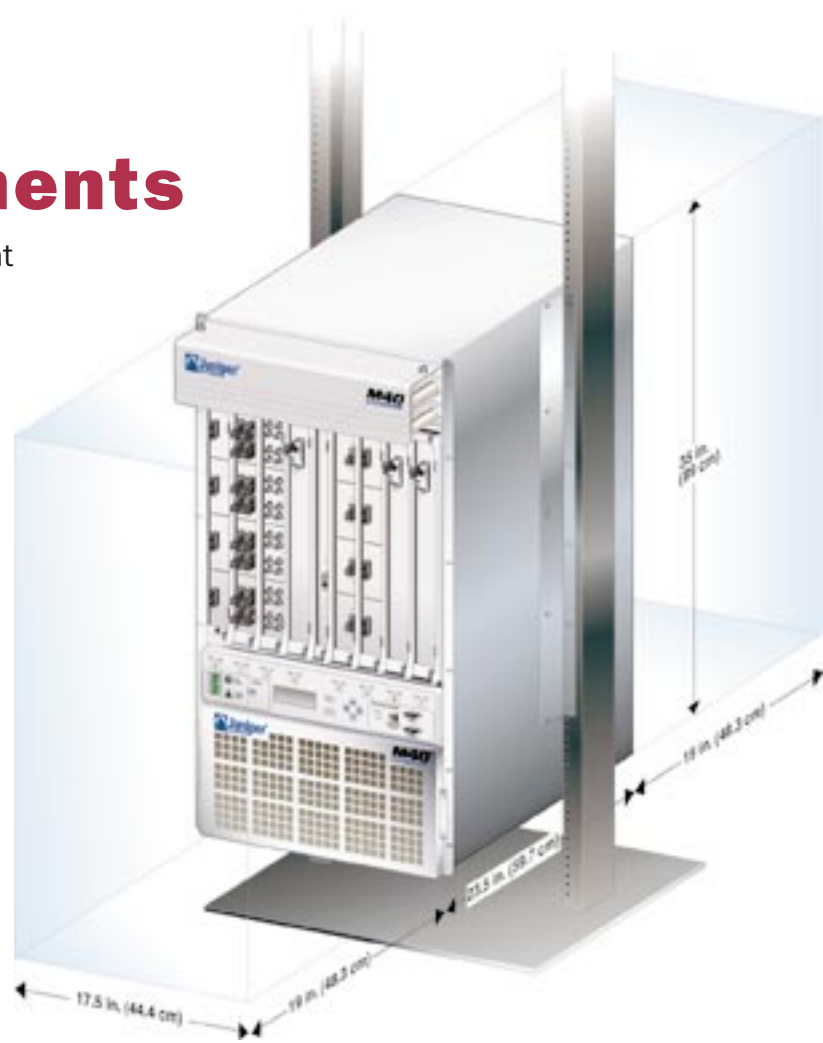
- A mechanical lift – recommended
- Phillips screwdrivers, numbers 1 and 2
- Flat-blade screwdrivers, 3/16-in. and 1/4-in.
- Electrostatic discharge wrist strap
- Open-end or socket wrench, 9/16-in. (if you are front-mounting the router)
- Wire cutters
- Pliers
- Anti-static mat



M40 Internet Backbone Router

1 Rack Space Requirements

- You can install the router into either a center-mount or front-mount rack.
- The holes in the mounting ears are spaced at 5-1/4 in. and at 7 in.
- The rack must be large enough to hold the router and strong enough to support its weight (up to 280 lbs).



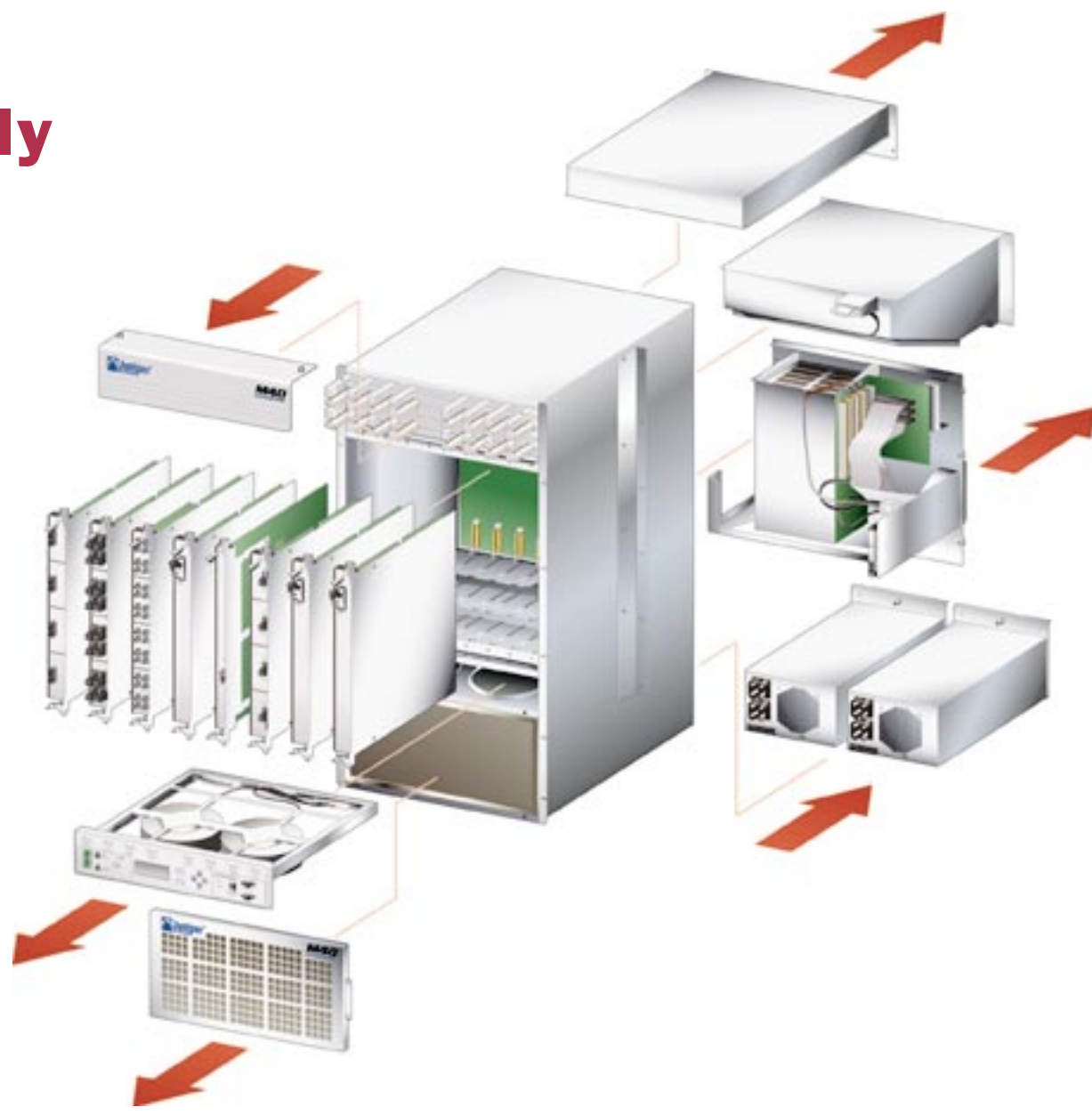
2 Unpack the Router

- Move the shipping crate as close to the installation site as possible.
- Open the top flaps on the shipping crate.
- Remove the accessory box.
- Twist the locking tabs to remove the crate from the pallet.
- Verify that you have received all parts on the packing list.
- Using a 9/16-in. socket wrench, remove the bolts attaching the router to the pallet.
- Save the shipping crate, packing materials, and pallet in case you need to move or ship the router.

3 ...Install the Router Manually

3a Remove Components

- Remove power supplies, Routing Engine, FPCs, SCB, impellers, fan tray, and cable management system before lifting the router.
- Slide each component out of the chassis evenly so that it does not become stuck or damaged.
- Label each component as you remove it so you can reinstall it in its correct location.
- Immediately store each removed component in an electrostatic bag.
- Do not stack removed components. Lay each one on a flat surface.
- For instructions on removing router components, see "Install the Router and Its Components" in the *M40 Internet Backbone Router Hardware Installation Guide*.



3b Lift the Router Into the Rack

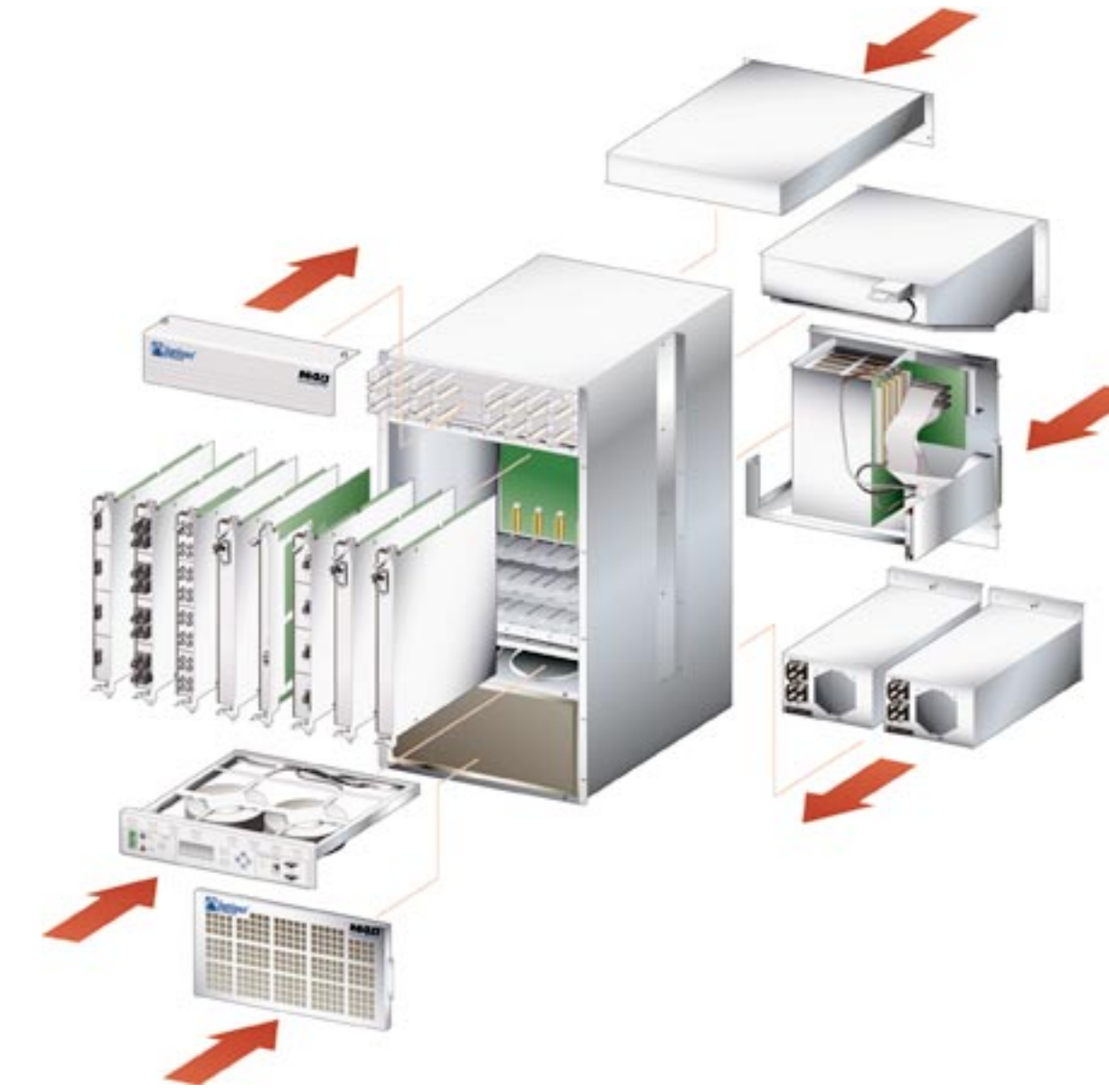
Lifting the chassis and mounting it into the rack requires two people to lift and a third person to secure the mounting screws. The empty chassis weighs over 180 lbs (81 kg).

- Make sure the rack is in its permanent location and is secured to the building.
- If you are using lifting handles to install the router, install the handles on the sides of the chassis.
- If you are installing the router in the upper half of the rack, first install the C-bracket in the rack.
- With one person at each side of the chassis, have each person grasp the front and side of the chassis under the card cage (or the lifting handles). Lift the chassis and position it in the rack.
- Align the bottom mounting holes on the chassis mounting ears with the holes in the rack.
- Install a mounting screw (provided) into each of the two aligned holes.



3c Reinstall Components

- **Caution** Make sure that all empty slots are covered with a blank panel before operating the router.
- Slide each component into the chassis evenly so that it does not become stuck or damaged.



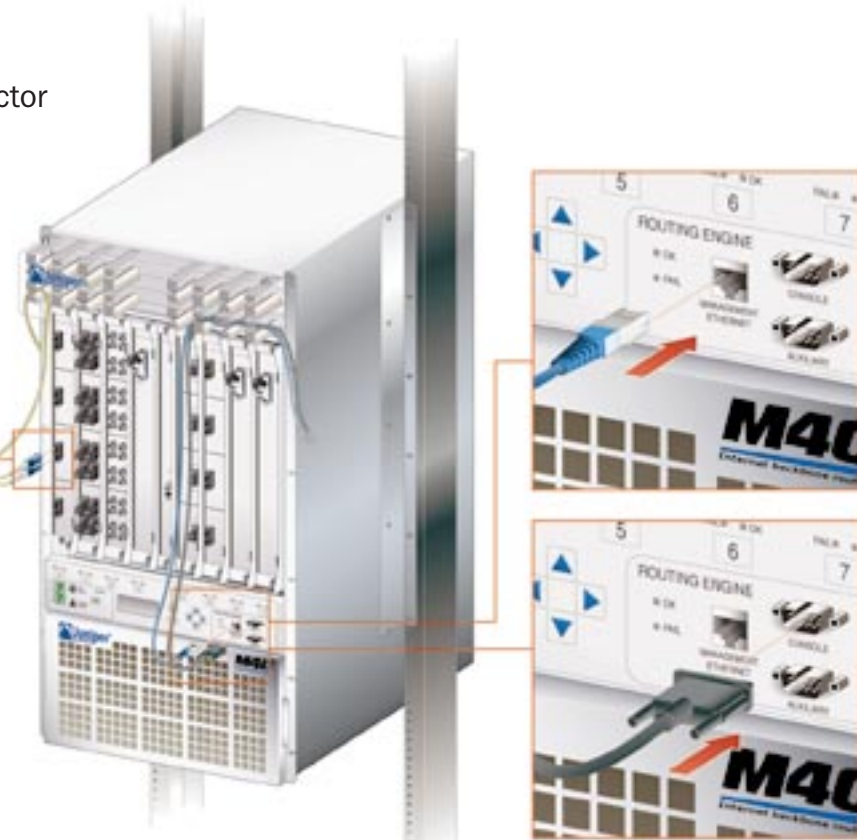
4 Connect External Devices and PIC Cables

Connect a management console:

- Turn off the power switch on the console.
- Plug the female end of the RS-232 serial connector into the CONSOLE port on the craft interface.
- Tighten the screws on the connector.

Connect to a network for out-of-band management:

- Plug one of the Ethernet cable connectors into the MANAGEMENT ETHERNET port on the craft interface.
- Tighten the screws on the connector.
- Plug the other end into the networking device.



Connect the PIC cables:

- Identify the appropriate cable to be connected to each PIC.
- **Warning** Do not look directly into the PIC transceivers or into the ends of fiber-optic cables. Fiber-optic cables contain laser light sources that can damage your eyes.
- Insert the appropriate cable connector into the PIC transceiver.
- Drape the cable over the covered metal hooks in the cable management system to prevent cables from dislodging or developing stress points.

5 Connect Ground and Power Cables

For AC power supplies:

- Plug the AC power cable into the receptacle on one of the power supplies.
- Plug the other end of the power cable into the AC power source receptacle.
- Repeat for the second AC power supply.

For DC power supplies:

- Ensure that the voltage across the DC power source cables is 0 V and that the cable leads will not become active during installation.

- Secure the cable lug and ground wire to the grounding studs on the power supply faceplate with the washers, then with the nuts.

- Remove the plastic shield covering the terminal studs on the power supplies.
- Remove the nut and locking washer from the power supply terminal studs and attach the DC power sources to the terminal studs:

- Connect the positive (+) cable lugs to the RTN (return) terminals.
- Connect the negative (–) cable lugs to the –48 V (input) terminals.

- Secure the power cable lugs to the terminal studs with the washers, then with the nuts.

- Verify that the power and ground cabling are correct. Make sure that the power cables do not cover the Routing Engine or the alternate power supply.

- Replace the plastic shield covering the terminal studs.

- To verify that the power supplies are installed correctly, turn the power switch on one of the power supplies **ON**. The green **OK** LED on the power supply faceplate should blink, then light steadily.



3 Install the Router Using a Lift...Or

Warning Because of the router's size and weight, we highly recommend using a lift to install the router.

- Make sure the rack is properly secured to the building in its permanent location.
- Load the router onto the lift.
- Use the lift to position the router in the rack at the correct height.
- Align the bottom mounting holes on the chassis mounting ears with the holes in the rack. If you are center-mounting the router, attach one of the mounting ears to the center of each side of the chassis.
- Install a mounting screw (provided) into each of the two aligned holes.
- Moving up the sides of the router, install screws in every hole on the mounting ears.
- Move the lift away from the rack.

