

IBM System x

*Hints and Tips:
Installing and Cabling a
Multinode System x3950 M2*



Use these hints and tips in addition to the Rack Installation Instructions manual and the Scalability Option Kit manuals to cable and setup an x3950 M2 multinode complex.

IBM Systems

Notes on the Scalability Cabling Setup

1. The deep-plug design of the scalability cables will help to prevent the cables from becoming disconnected from the port since the connection is actually in the center of the system, not at the rear of the system like previous System x scalable systems.
2. Due to the deep-plug nature of the scalability cables, the lengths are actually longer than previous systems but the actual amount of slack outside the system and the CMA is slightly less than the slack in the xSeries 460/System x3950 system.
3. Thinner gauge cable was chosen for this generation of the scalability cables, and a thinner gauge still will be introduced later in 2008. This reduces the stiffness of the cables and will help the cables route more easily.
4. It is recommended to wrap the cable strap around the scalability cables first to secure them within the brackets, then wrap the strap around the CMA.

Links to System Manuals

1. Installation Guide:
 - ftp://ftp.software.ibm.com/systems/support/system_x_pdf/jr1bcms2.pdf
2. Rack Installation Instructions (x3950 M2 starts on page 6):
 - ftp://ftp.software.ibm.com/systems/support/system_x_pdf/jr1birii.pdf
3. The deep-plug design of the scalability cables will help to prevent the cables from becoming disconnected from the port since the connection is actually in the center of the system, not at the rear of the system like previous System x scalable systems.
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8u needed for 2-node system



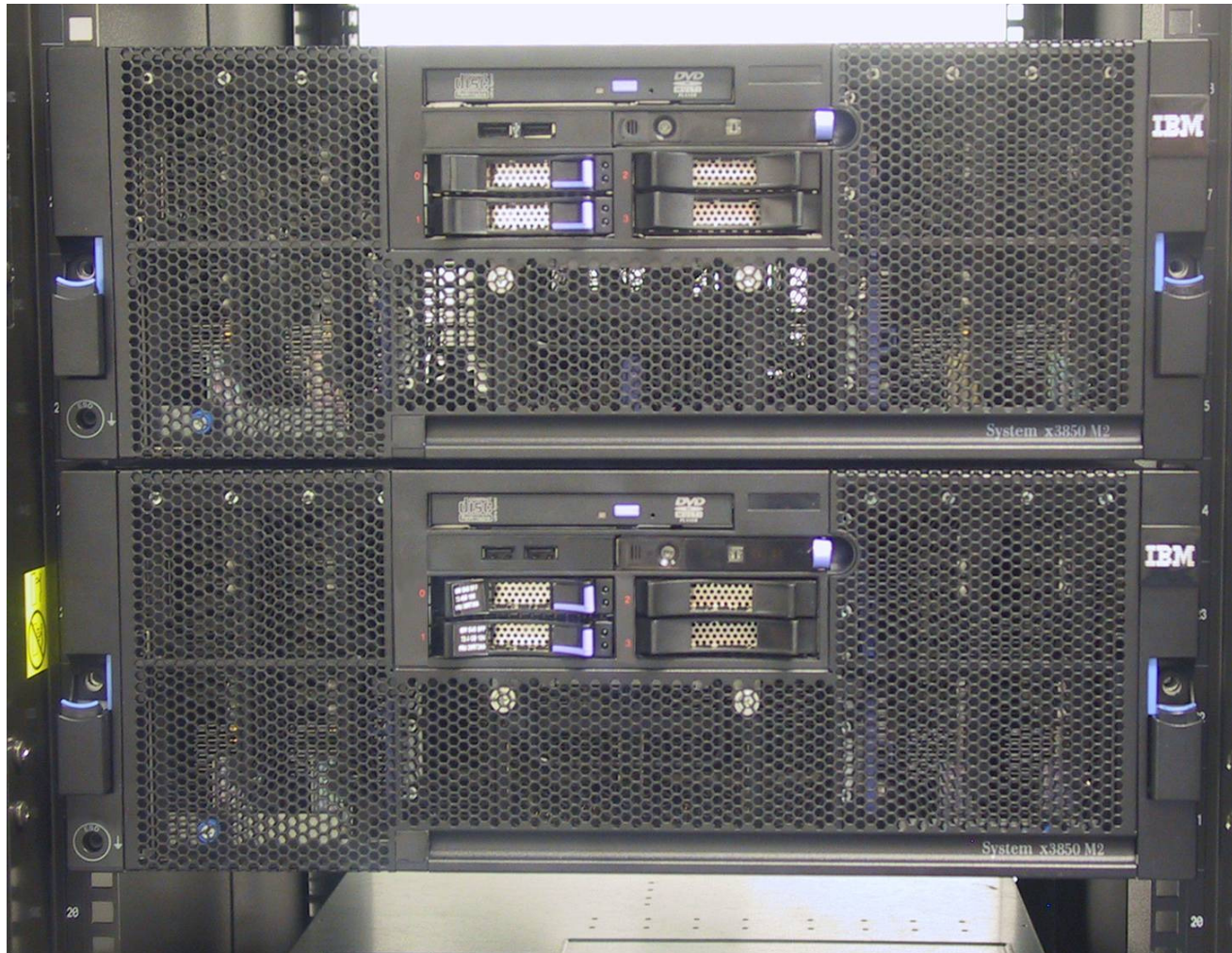
The length of the scalability cables requires that no empty U-spaces exist between the nodes.

Install slides into rack



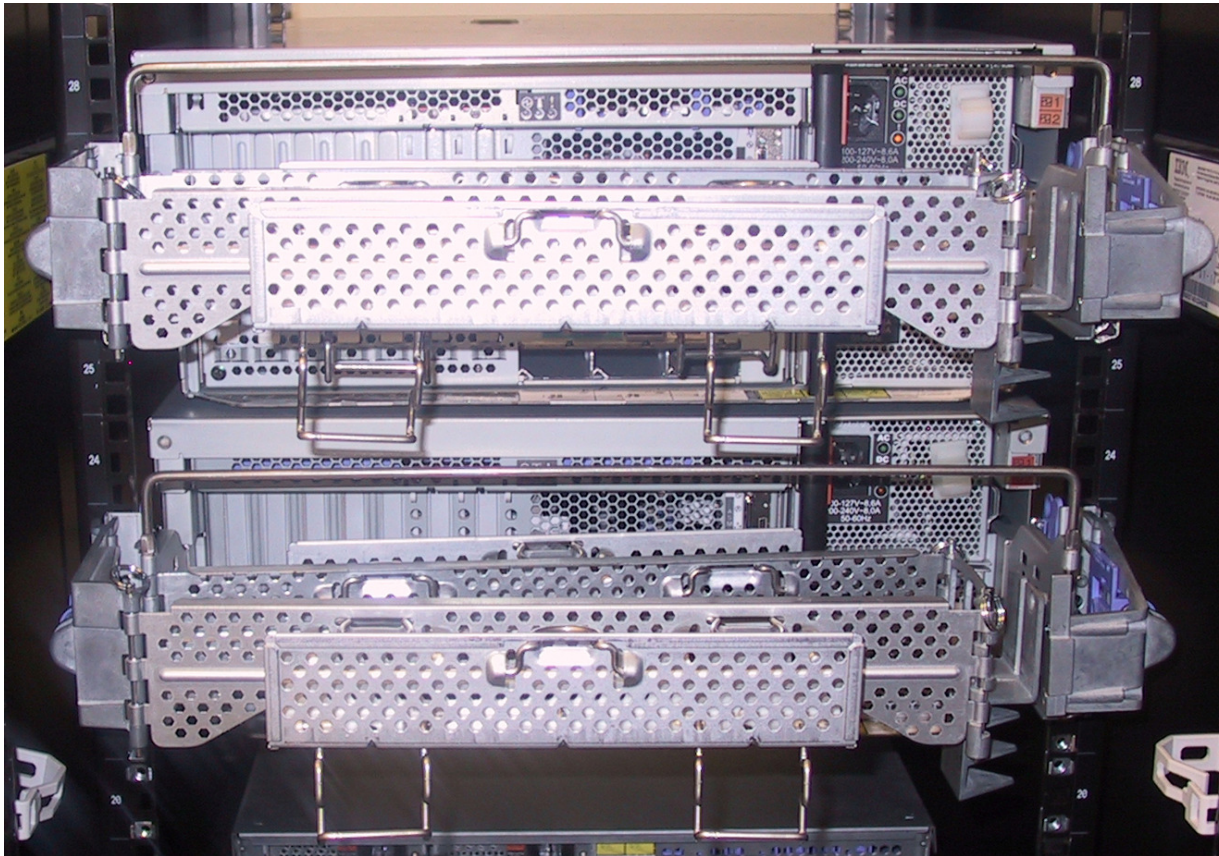
Use Rack Installation Instructions manual to space slides appropriately and install the slides into the rack. Note this system is 4u as opposed to 3u for the original System x3950/xSeries 460.

Install nodes onto the slides



Use Rack Installation Instructions manual to install systems and cable management arms onto slides.

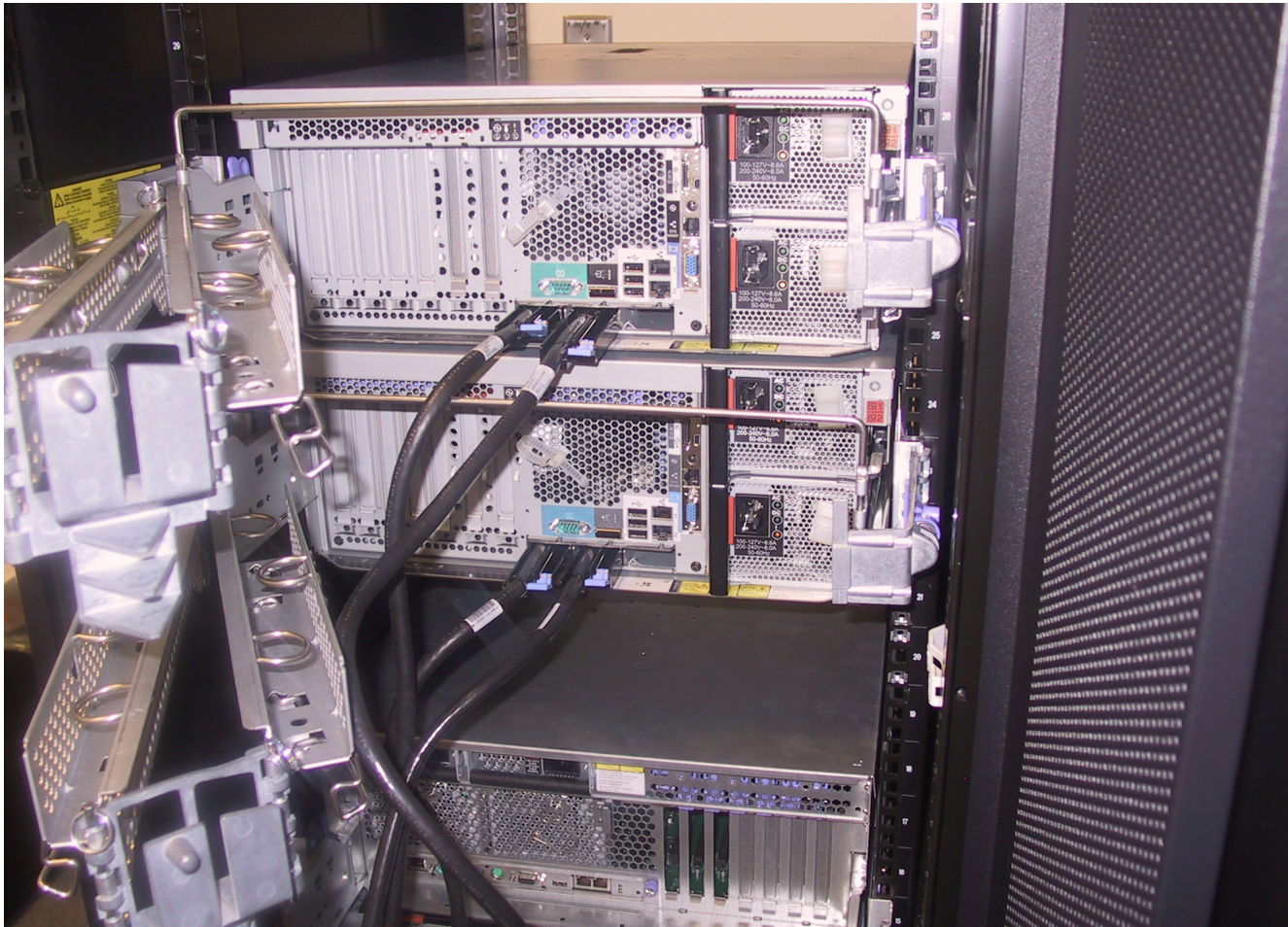
Install Enterprise Cable Management Arms onto nodes.



NOTES:

- 1. If you purchased an x3950 M2, the Enterprise CMA comes within the system. If you purchased an x3850 M2 and the ScaleXpander option, the Enterprise CMA comes with the option.**
- 2. The Enterprise CMA from the xSeries 460/x3950 can not be used on the x3850 M2/x3950 M2 due to slight differences in the dimensions of the CMA components.**

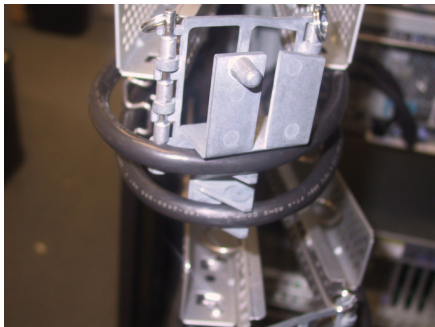
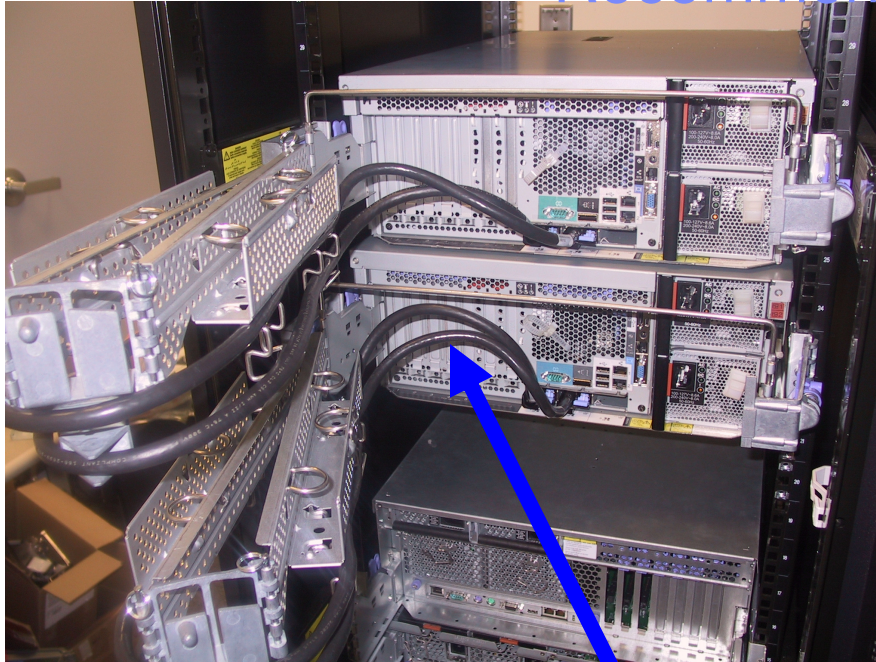
Connect Scalability Cables to Scalability Ports



Notes

1. Route cables through hanger brackets, balancing the slack in the cables between the CMAs and the nodes and in the side of the rack.
2. Refer to the manuals to determine which ports to connect the cables to.

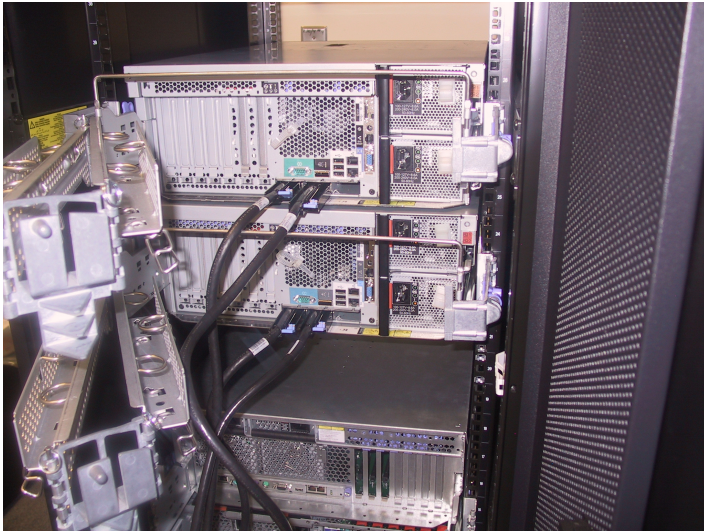
Install and Route Scalability Cables— Recommended Method



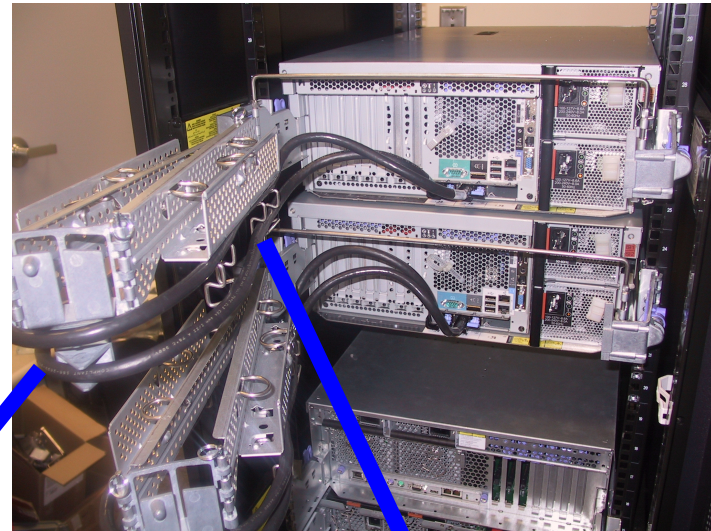
- **Route cables through hanger brackets, balancing the slack in the cables between the CMAs and the nodes and in the side of the rack.**



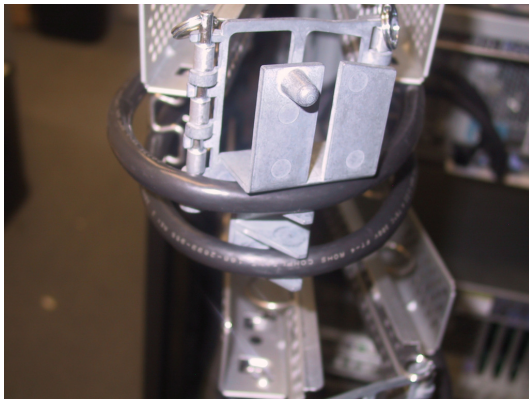
Install and Route Scalability Cables—
Recommended Method



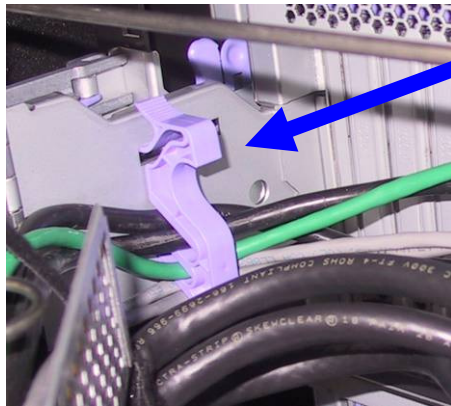
Connect cables to scalability ports according to the system manuals.



Route cables through hanger brackets, balancing the slack in the cables between the CMAs and the nodes and in the side of the rack.



Connect power and IO cables to system and route through CMA



NOTES:

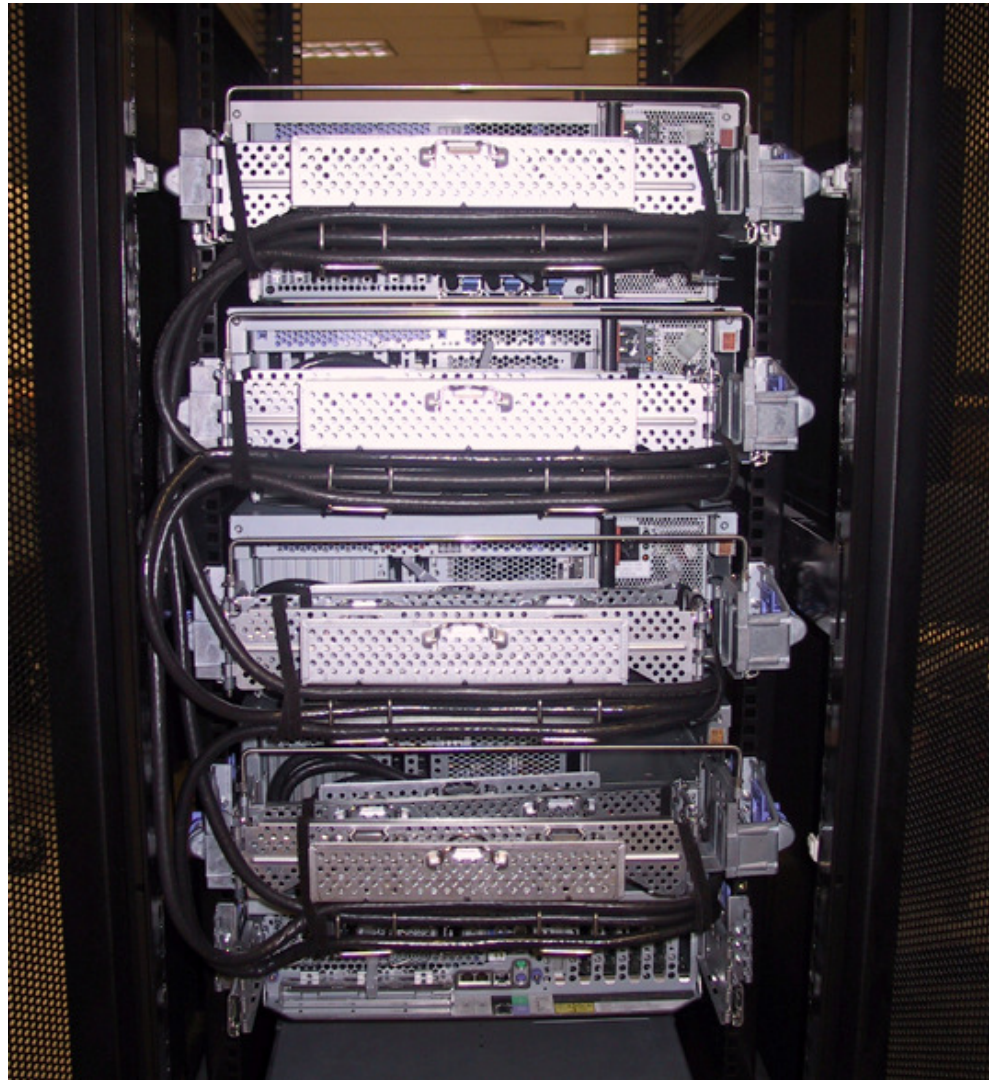
1. Use the strain relief cable clamps on the rear of the power supplies for the power cables and the IO cables on the rear of the system. This prevents the cable from sagging and getting caught on the node below.
2. Route the power cables and other IO cables as needed through the blue plastic cable restraint brackets attached to the side of the slide rails.

Remove cable slack from CMA hanger brackets.



Once all cables are secured in the CMA, pull the system out all the way and pull the scalability cables tight within the CMA hanger brackets. Retighten the cable straps if needed. This will ensure the cables stay in the CMA while sliding the system in and out for hardware maintenance and upgrade activities. This is especially important because thinner cables are used in this M2 generation of the x3950 system compared to the previous version.

4-node Cable Setup



Verify Cabling

The screenshot shows the Remote Supervisor Adapter II Refresh 1 interface. The main area is titled 'Scalable Complex Management' and contains a table with columns for System, Partition, and Mode. Below the table are sections for Partition Control, Standalone Boot, Partition Configure, Reset Defaults, and Partition Reorder. A network diagram shows two systems, System 1 (x460) and System 2 (MXE - 460), with their respective ports and a network connection. A red circle highlights a 'Port Link' in the diagram, and a red box highlights the 'Port 1' label in the system configuration.

System	Partition	Mode
Unknown	Invalid	Standalone
Unknown	Invalid	Standalone

Once all the cabling is complete, you can verify the cabling 2 ways:

1. In the RSA2 interface, during setup of the partitions, will show any disconnects of the cables within the scalable complex as shown to the left.
2. Once the system complex is powered on, look at the back of the system to ensure all ports with scalability cables connected have the green LED lit to indicate a good link. Also, on the light path panel, the "LINK" LED on the top surface will be lit if any of the cables are not connected correctly.

- ▶ Ports turn red when there is a problem with the port, it is marked offline, or the cabling is incorrect
- ▶ The Port Number becomes a link
- ▶ Clicking on the link provides a pop up displaying the correct cable configuration for that size complex

Feedback

- **If you have comments or feedback on this document please contact the author.**

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