

Configuring Chassis FPC (NSM Procedure)

For MX Series routers, there is a one-to-one mapping of the Packet Forwarding Engines and the PICs. Therefore, you can override the port-mirroring instance properties configured at the DPC level and configure a PIC-level port-mirroring instance. To bind a port-mirroring instance to a specific Packet Forwarding Engine and its associated ports, you can use this option.

You can also configure aggregate ports, maximum queue per interface, and tunneling services for PICs.

To configure chassis FPC in NSM:

1. In the NSM navigation tree, select **Device Manager > Devices**.
2. Click the **Device Tree** tab, and then double-click the device to select it.
3. Click the **Configuration** tab. In the configuration tree, expand **Chassis > Fpc**.
4. Add or modify settings as specified in Table 1.
5. Click one:
 - OK—Saves the changes.
 - Cancel—Cancels the modifications.

Table 1: FPC Configuration Details

Task	Your Action
Configure a port-mirroring instance for the DPC and its corresponding Packet Forwarding Engines.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. From the Name list, select the slot number of the DPC.3. From the Power list, configure the Flexible PIC Concentrator (FPC) to stay offline or to come online automatically.

Table 1: FPC Configuration Details (continued)

Task	Your Action
Configure aggregate port, maximum queues per interface and port mirroring instances for the PICs.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. From the Name list, select the slot number of the DPC.5. In the Comment box, enter the comment.6. From the Framing list, select the framing type.7. From the Vtmapping list, select one of the virtual tributary mapping.<ul style="list-style-type: none">■ klm—KLM standard.■ itu-t—International Telephony Union standard.8. Select the No Concatenate check box to not concatenate (multiplex) the output of a SONET/SDH PIC (an interface with a name so-fpc/pic/port).9. Select the Aggregate Ports check box if you want to aggregate multiple ports on a PIC as a single port.10. Select the Sparse Dlcis check box to support a full data-link connection identifier (DLCI) range (1 through 1022).11. From the Mlfr Uni Nni Bundles list, select the number of multilink frame relay user-to-network interface network-to-network interface (UNI-NNI) (FRF.16) bundles to allocate on a link services PIC. Range: 1 through 25512. From the Max Queues Per Interface list, select the required egress queues on IQ interfaces.
Enable a service package on adaptive services interfaces.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Adaptive Services next to pic.5. Select Adaptive Services to enable a service package on adaptive services interfaces.

Table 1: FPC Configuration Details (continued)

Task	Your Action
Configure channelized E1 port and channel specifications.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to pic.4. Click Ce1 next to pic.5. In the Comment box, enter the comment.6. Click E1 next to Ce1.7. Click Add new entry next to E1.8. From the Name list, select the port number.9. In the Comment box, enter the comment.10. Click Channel Group next to e1.11. Click Add new entry next to Channel Group.12. From the Name list, select the channel number.13. In the Comment box, enter the comment.14. In the Timeslots box, enter the actual time slot number.
Configure channelized T3 port and channel specifications.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Ct3 next to pic.5. In the Comment box, enter the comment.6. Click Port next to Ct3.7. Click Add new entry next to Port.8. From the Name list, select the port number.9. In the Comment box, enter the comment.10. Click T1 next to Port.11. Click Add new entry next to T1.12. From the Name list, select the link number.13. In the Comment box, enter the comment.14. Click Channel Group next to t1.15. Click Add new entry next to Channel Group.16. From the Name list, select the channel number.17. In the Comment box, enter the comment.18. In the Timeslots box, enter the actual time slot number.

Table 1: FPC Configuration Details (continued)

Task	Your Action
Configure data used in a hash key for a protocol family.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Hash Key next to pic.5. In the Comment box, enter the comment.6. Click Family next to Hash Key.7. In the Comment box, enter the comment.
Configure data used in a hash key for the inet protocol family when configuring PIC-level symmetrical load balancing on an 802.3ad link aggregation group.	<ol style="list-style-type: none">1. Click Inet next to Family.2. In the Comment box, enter the comment.3. Click Layer 3 next to Inet.4. In the Comment box, enter the comment.5. Select the Destination Address check box to compute symmetrical hashing based on the destination address.6. Click Layer 4 next to Inet.7. In the Comment box, enter the comment.8. Click Symmetric Hash next to Inet.9. In the Comment box, enter the comment.10. Select the Complement check box to include the complement of the symmetric hash in the hash key.

Table 1: FPC Configuration Details (continued)

Task	Your Action
Configure data used in a hash key for the multiservice protocol family when configuring PIC-level symmetrical hashing for load balancing on an 802.3ad link aggregation group.	<ol style="list-style-type: none">1. Click Multiservice next to Family.2. In the Comment box, enter the comment.3. Select the Source Mac check box to include source MAC address in the hash key.4. Select the Destination Mac check box to include destination MAC address in the hash key.5. Click Payload next to Multiservice.6. Click Ip next to Payload.7. In the Comment box, enter the comment.8. Select the Layer 4 check box to include Layer 4 IP information in the hash key.9. Click Layer 3 next to Ip.10. Select one of the following:<ul style="list-style-type: none">■ source-ip-only—To include source IP only in hash-key.■ destination-ip-only—To include destination IP only in hash-key.11. Click Symmetric Hash next to Multiservice.12. In the Comment box, enter the comment.13. Select the Complement check box to include the complement of the symmetric hash in the hash key.
Configure the channelized T3 port number on the PIC.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Port next to pic.5. From the Name list, select the port number.6. In the Comment box, enter the comment.7. From the Framing list, select the framing type.
Configure delay buffers.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Q Pic Large Buffer next to pic.5. In the Comment box, enter the comment.

Table 1: FPC Configuration Details (continued)

Task	Your Action
Configure port-mirroring instances.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Port Mirror Instance next to pic and perform the following:<ul style="list-style-type: none">■ Add—Adds the selected port-mirroring instances from the Non member list to the Members list.■ Remove—Removes the selected port-mirroring instances from the Members list.■ Add All—Adds all the port-mirroring instances from the Non-members list to the Members list.■ Remove All—Removes all the port-mirroring instances from the Members list.
Enable shaping on an L2TP session.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Traffic Manager next to pic.5. From the Ingress Shaping Overhead list, select the number of CoS shaping overhead bytes to add to the packets on the ingress side of the L2TP tunnel to determine the shaped session packet length. Range: 0 through 2556. From the Egress Shaping Overhead list, select the number of CoS shaping overhead bytes to add to the packets on the egress interface. Range: 0 through 2557. From the Mode list, select the mode of shaping.
Configure the amount of bandwidth for tunnel services.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Pic next to fpc.3. Click Add new entry next to Pic.4. Click Tunnel Service next to pic.5. From the Bandwidth list, select the bandwidth of 1 Gbps or 10Gbps on the Packet Forwarding Engine connected to a Gigabit Ethernet 40-port DPC.

Table 1: FPC Configuration Details (continued)

Task	Your Action
Configure Port-Mirroring Instances.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Port Mirror Instance next to fpc and perform the following:<ul style="list-style-type: none">■ Add—Adds the selected port-mirroring instances from the Non member list to the Members list.■ Remove—Removes the selected port-mirroring instances from the Members list.■ Add All—Adds all the port-mirroring instances from the Non-members list to the Members list.■ Remove All—Removes all the port-mirroring instances from the Members list.
Associate a sampling instance.	<ol style="list-style-type: none">1. Click Add new entry next to Fpc.2. Click Sampling Instances next to fpc.3. Click Add new entry next to Sampling Instances.4. From the Name list, select the sampling instance name.5. In the Comment box, enter the comment.

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