



## Administrative and Service States

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This appendix describes administrative and service states for Cisco ONS 15454 cards, ports, and cross-connects. For circuit state information, see [Chapter 10, “Circuits and Tunnels.”](#) Software Release 5.0 states are based on the generic state model defined in Telcordia GR-1093-CORE, Issue 2 and ITU-T X.731.

### 0.1 Service States

Service states include a Primary State (PST), a Primary State Qualifier (PSTQ), and one or more Secondary States (SST). [Table 0-1](#) lists the service state PSTs and PSTQs supported by the ONS 15454.

**Table 0-1** ONS 15454 Service State Primary States and Primary State Qualifiers

Primary State, Primary State Qualifier	Definition
IS-NR	(In-Service and Normal) The entity is fully operational and will perform as provisioned.
OOS-AU	(Out-of-Service and Autonomous) The entity is not operational because of an autonomous event.
OOS-AUMA	(Out-of-Service and Autonomous Management) The entity is not operational because of an autonomous event and has also been manually removed from service.
OOS-MA	(Out-of-Service and Management) The entity has been manually removed from service.

Table 0-2 defines the SSTs supported by the ONS 15454.

**Table 0-2 ONS 15454 Secondary States**

Secondary State	Definition
AINS	(Automatic In-Service) The entity is delayed before transitioning to the IS-NR service state. The transition to IS-NR depends on correction of conditions, or on a soak timer. Alarm reporting is suppressed, but traffic is carried. Raised fault conditions, whether or not their alarms are reported, can be retrieved on the CTC Conditions tab or by using the TL1 RTRV-COND command.
DSBLD	(Disabled) The entity was manually removed from service and does not provide its provisioned functions. All services are disrupted; the entity is unable to carry traffic.
LPBK	(Loopback) The entity is in loopback mode.
MEA	(Mismatched Equipment) An improper card is installed. For example, an installed card is not compatible with the card preprovisioning or the slot. This SST applies only to cards.
MT	(Maintenance) The entity has been manually removed from service for a maintenance activity but still performs its provisioned functions. Alarm reporting is suppressed, but traffic is carried. Raised fault conditions, whether or not their alarms are reported, can be retrieved on the CTC Conditions tab or by using the TL1 RTRV-COND command.
OOG	(Out of Group) The virtual concatenation (VCAT) member cross-connect is not used to carry VCAT group traffic. This state is used to put a member circuit out of the group and to stop sending traffic. OOS-MA,OOG only applies to the cross-connects on an end node where VCAT resides. The cross-connects on intermediate nodes are in the OOS-MA,MT service state.
SWDL	(Software Download) The card is involved in a software and database download. This SST applies only to cards.
UAS	(Unassigned) The card is not provisioned in the database. This SST applies only to cards.
UEQ	(Unequipped) The card is not physically present (that is, an empty slot). This SST applies only to cards.

## 0.2 Administrative States

Administrative states are used to manage service states. Administrative states consist of a PST and an SST. Table 0-3 lists the administrative states supported by the ONS 15454. See Table 0-2 for SST definitions.



### Note

A change in the administrative state of an entity does not change the service state of supporting or supported entities.

**Table 0-3** ONS 15454 Administrative States

Administrative State (PST,SST)	Definition
IS	Puts the entity in-service.
IS,AINS	Puts the entity in automatic in-service.
OOS,DSBLD	Removes the entity from service and disables it.
OOS,MT	Removes the entity from service for maintenance.
OOS,OOG	(VCAT circuits only.) Removes a VCAT member cross-connect from service and from the group of members.

## 0.3 Service State Transitions

This section describes the transition from one service state to the next for cards, ports, and cross-connects. A service state transition is based on the action performed on the entity.

### 0.3.1 Card Service State Transitions

Table 0-4 lists card service state transitions.

**Table 0-4** ONS 15454 Card Service State Transitions

Current Service State	Action	Next Service State
IS-NR	Change the administrative state to OOS,MT.	OOS-MA,MT
	Delete the card.	OOS-AUMA,UAS
	Pull the card.	OOS-AU,UEQ
	Reset the card.	OOS-AU,SWDL
OOS-AU,AINS and MEA	Pull the card.	OOS-AU,AINS & UEQ
	Delete the card.	OOS-AUMA,UAS if the card is valid OOS-AUMA,MEA & UAS if the card is invalid
OOS-AU,AINS & SWDL	Restart completed.	IS-NR
	Pull the card.	OOS-AU,AINS & UEQ
OOS-AU,AINS & UEQ	Insert a valid card.	OOS-AU,AINS & SWDL
	Insert an invalid card.	OOS-AU,AINS & MEA
	Delete the card.	OOS-AUMA,UAS & UEQ

Table 0-4 ONS 15454 Card Service State Transitions (continued)

Current Service State	Action	Next Service State
OOS-AU,MEA	Pull the card.	OOS-AU,UEQ
	Delete the card.	OOS-AUMA,UAS if the card is valid OOS-AUMA,MEA & UAS if the card is invalid
	Change the administrative state to OOS,MT.	OOS-AUMA,MT & UEQ
OOS-AU,SWDL	Restart completed.	IS-NR
	Pull the card.	OOS-AU,UEQ
OOS-AU,UEQ	Insert a valid card.	OOS-AU,SWDL
	Insert an invalid card.	OOS-AU,MEA
	Delete the card.	OOS-AUMA,UAS & UEQ
	Change the administrative state to OOS,MT.	OOS-AUMA,MT & UEQ
OOS-AUMA,MEA & MT	Change the administrative state to IS.	OOS-AU,MEA
	Pull the card.	OOS-AUMA,MT & UEQ
	Delete the card.	OOS-AUMA,UAS if the card is valid OOS-AUMA,MEA & UAS if the card is invalid
OOS-AUMA,MEA & UAS	Pull the card.	OOS-AUMA,UAS & UEQ
	Provision the card.	OOS-AU,MEA
OOS-AUMA,MT & SWDL	Restart completed.	OOS-MA,MT
	Pull the card.	OOS-AUMA,MT & UEQ
OOS-AUMA,MT & UEQ	Change the administrative state to IS.	OOS-AU,UEQ
	Insert a valid card.	OOS-AUMA,MT & SWDL
	Insert an invalid card.	OOS-AUMA,MEA & MT
	Delete the card.	OOS-AUMA,UAS & UEQ
OOS-AUMA,UAS	Pull the card.	OOS-AUMA,UAS & UEQ
	Provision an invalid card.	OOS-AU,MEA
	Provision a valid card.	OOS-AU,SWDL
OOS-AUMA,UAS & UEQ	Insert a valid card.	OOS-AU,SWDL
	Insert an invalid card.	OOS-AUMA,MEA & UAS
	Preprovision a card.	OOS-AU,AINS & UEQ

**Table 0-4** ONS 15454 Card Service State Transitions (continued)

Current Service State	Action	Next Service State
OOS-MA,MT	Change the administrative state to IS.	IS-NR
	Delete the card.	OOS-AUMA,UAS
	Pull the card.	OOS-AUMA,MT & UEQ
	Reset the card.	OOS-AUMA,MT & SWDL

## 0.3.2 Port and Cross-Connect Service State Transitions

Table 0-5 lists the port and cross-connect service state transitions. Port states do not impact cross-connect states with one exception. A cross-connect in the OOS-AU,AINS service state cannot transition autonomously into the IS-NR service state until the parent port is IS-NR.

The following ports do not support all of the service states listed in Table 0-5:

- E-Series Ethernet ports do not support service states; these ports are either enabled or disabled.
- FC\_MR-4 ports support the IS-NR; OOS-MA,DSBLD; and OOS-MA,MT service states; they do not support the OOS-AU,AINS service state.

**Table 0-5** ONS 15454 Port and Cross-Connect Service State Transitions

Current Service State	Action	Next Service State
IS-NR	Put the port or cross-connect in the OOS,MT administrative state.	OOS-MA,MT
	Put the port or cross-connect in the OOS,DSBLD administrative state.	OOS-MA,DSBLD OOS-MA,DSBLD & OOG for a VCAT cross-connect
	Put the port or cross-connect in the IS,AINS administrative state.	OOS-AU,AINS <sup>1</sup>
	Put the VCAT cross-connect in the OOS,OOG administrative state.	OOS-MA,MT & OOG
OOS-AU,AINS	Put the port or cross-connect in the IS administrative state.	IS-NR
	Put the port or cross-connect in the OOS,MT administrative state.	OOS-MA,MT
	Put the port or cross-connect in the OOS,DSBLD.	OOS-MA,DSBLD OOS-MA,DSBLD & OOG for a VCAT cross-connect
	Put the VCAT cross-connect in the OOS,OOG administrative state.	OOS-MA,MT and OOG

Table 0-5 ONS 15454 Port and Cross-Connect Service State Transitions (continued)

Current Service State	Action	Next Service State
OOS-MA,DSBLD	Put the port or cross-connect in the IS administrative state.	IS-NR
	Put the port or cross-connect in the IS,AINS administrative state.	OOS-AU,AINS
	Put the port or cross-connect in the OOS,MT.	OOS-MA,MT
	Put the VCAT cross-connect in the OOS,OOG administrative state.	OOS-MA,MT & OOG
OOS-MA,LPBK & MT	Release the loopback.  <b>Note</b> While in OOS-MA,LPBK & MT, both CTC and TL1 allow a cross-connect to be deleted, which also removes the loopback. This applies only to the cross-connect, not the ports.	OOS-MA,MT
OOS-MA,MT	Put the port or cross-connect in the IS administrative state.	IS-NR
	Put the port or cross-connect in the IS,AINS administrative state.	OOS-AU,AINS
	Put the port or cross-connect in the OOS,DSBLD.	OOS-MA,DSBLD OOS-MA,DSBLD & OOG for a VCAT cross-connect
	Put the port or cross-connect in loopback.	OOS-MA,LPBK & MT
	Put the VCAT cross-connect in the OOS,OOG administrative state.	OOS-MA,MT & OOG

1. For a VCAT member, an IS-NR to OOS-AU,AINS transition will not occur with a Loss of Multiframe (LOM) or Sequence Mismatch (SQM) condition on the member.