

## Lumen Managed Services Alarm Guide

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“Lumen” is defined for purposes of this Managed Services Alarm Guide (“Alarm Guide”) as CenturyLink Communications, LLC d/b/a Lumen Technologies Group and its affiliated entities providing Services subject to this Alarm Guide. This Alarm Guide applies when Customer orders Lumen Edge Gateway Service, Lumen SD-WAN with Versa Networks, Lumen SD-WAN with Cisco Meraki, Lumen SASE Solutions or Managed Network Service. Terms used but not defined in this Alarm Guide will have the meaning set forth in the Agreement. This Alarm Guide is subject to change.

### 1. Lumen SASE Solutions

Lumen polls appliances/circuits every four minutes to check health. The following alarms may occur, and actions will be taken, as per the table below:

Alarm Type	Definition	Alarm Severity	Lumen Action Taken
SASE Device Down	Detects when SASE device is not connected to either controller.	Critical Incident	Ticket is auto-generated if the SASE device is not reachable for 12 consecutive minutes.

### 2. Lumen SD-WAN with Versa Networks

Lumen polls appliances/circuits every four minutes to check health. The following alarms may occur, and actions will be taken, as per the table below:

Alarm Type	Definition	Alarm Severity	Lumen Action Taken
SD-WAN Device Down	Detects when the SD-WAN software service goes down.	Critical Incident	Ticket is auto-generated if the SD-WAN device is not reachable for 12 consecutive minutes.
Interface Down	Detects when an interface is down.	Critical Incident	Ticket is auto-generated if interface remains down for 12 consecutive minutes.
Branch Disconnect	Detects when branch device is not connected to either controller.	Critical Incident	Ticket is auto-generated if branch device remains down for 12 consecutive minutes.
High CPU	Detects when Lumen provided CPE exceeds defined thresholds.	Incident	Ticket is auto-generated if CPE remains above 80% for 20 consecutive minutes.
High Memory	Detects when memory exceeds defined thresholds.	Incident	Ticket is auto-generated if CPE remains above 80% for 20 consecutive minutes.
BGP Neighbor Down	Detects when a BGP neighbor is not in an established state.	Incident	Ticket is auto-generated if BGP neighbor remains down for 12 consecutive minutes.

Overlay Tunnel Down	Detects when an SD-WAN overlay tunnel to both SD-WAN controllers is down across any transport path.	Incident	Ticket is auto-generated if SD-WAN overlay tunnels, to both SDWAN controllers are down for 20 consecutive minutes.
CPE Interface Bouncing	Detects when interface on Lumen provided CPE is bouncing.	Incident	Ticket is auto-generated if the interface bounces 5 or more times in a 25-minute window.
OSPF Neighbor State Change	Detects a change in OSPF neighbor state (when applicable).	Incident	Ticket is auto-generated if OSPF state is NOT 'Full' for 12 consecutive minutes.

### 3. Lumen SD-WAN with Cisco Meraki

The following alerts will be enabled on MX Appliances as part of the Lumen **standard configuration**:

Alarm Type	Definition	Alarm Severity	Lumen Action Taken
MX goes offline for 10 minutes.	If the MX is unreachable from dashboard for the configured number of minutes, it will generate an alert.	Critical Incident	A ticket is auto-generated per Alert trigger and email sent to the customer.
The primary uplink status changes.	If the device has redundant links and the status of the primary uplink changes, it will generate an alert. The change of status in the primary link could be a failover event or downed link. There is an event for primary link down and up.	Incident	A ticket is auto-generated per Alert trigger and email sent to the customer.
Cellular connection state changes.	This alert will be triggered if the Cellular connection goes up or down.	Incident	A ticket is auto-generated per Alert trigger and email sent to the customer.

### 4. Managed Network Services and Lumen Edge Gateway Service

Alarm Type	Definition	Alarm Severity	Lumen Action Taken
<b>Device Down</b>	Detects when a device is unreachable by the Network Management System.	Critical Incident	Ticket is auto-generated if no response is received from the device within 10 minutes.

### 5. Definitions

“Critical Incident” is defined as an incident that produces a situation in which one or more Managed Devices becomes inoperable, produces incorrect results, or fails catastrophically.

“Incident” is defined as an incident that produces a situation in which the operability of one or more Managed Devices is adversely impacted.

“Managed Device” is defined as an eligible CPE device managed as part of a Managed Service or Lumen Edge Gateway Service.