Lumen Internet Services

May 6, 2021

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The Internet is an **integral** part of our world

- Customer interactions are becoming more feature rich, putting greater focus on the quality of the connection

- Enterprises are utilizing public services for core business applications, requiring effective and reliable Internet connections

- The way we work is changing and the Internet has enabled work from anywhere

In the last 10 years internet usage has increased

1,239%*

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One of the largest public ISPs **in the world**

Lumen has the capability to provide network services to customers in

110+
countries

6,000+
major metros

2,200+
public and private data centers

~170,000
enterprise locations

250+ Tbps
of total global backbone capacity

65%
of global Internet traffic stays on our network

Connected

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Lumen impact on the Internet

Most interconnected service provider**

- 7,400+ unique Autonomous System (AS) interconnects globally, allowing customers to reach more of the global Internet directly from our network**

- Direct connections to more BGP Autonomous System (AS) customers (5,400+) than any other service provider in the world**

Largest US-based Ethernet connectivity provider***; enabling our customer's cloud journey

- 91 public cloud on-ramps to all major cloud providers, connecting 2,200+ public and private data centers and ~170,000 enterprise buildings
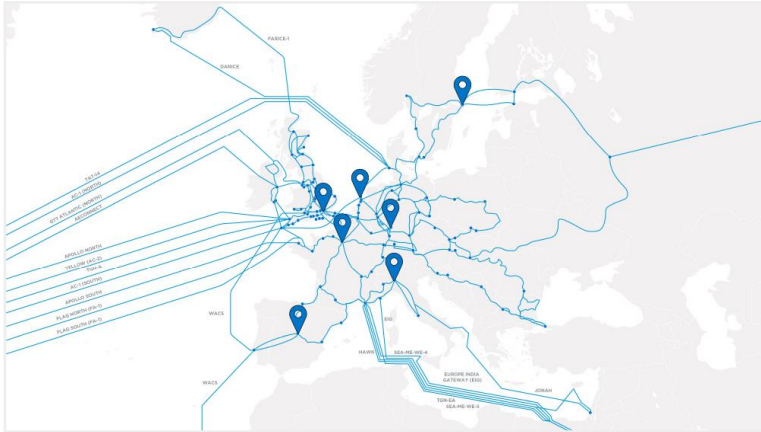
Most peered global network*

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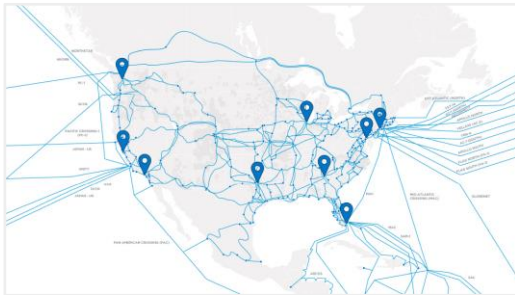
Lumen Internet excellence

Global peering - Traditional approach

- Traditional peering points results in unnecessary latency

- Most traditional telecom companies have a finite amount of peering in any one market

- The vast majority of network providers follow that same standard

Traditional Peering Points

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Lumen Internet excellence

Global peering - Lumen approach

- Lumen leverages localized private peering with private interconnects, in addition to traditional peering, to maximize performance
- Allows Lumen to exchange IP traffic in the market where traffic originates and terminates
- 250+ Tbps of total global backbone capacity
- More than 7,400 unique Autonomous System (AS) interconnects
- More than 65% of the traffic that originates on the Lumen network, stays on our network allowing us to better control performance

Traditional Peering Points

Lumen Peering Points and/or Large Wholesale customers
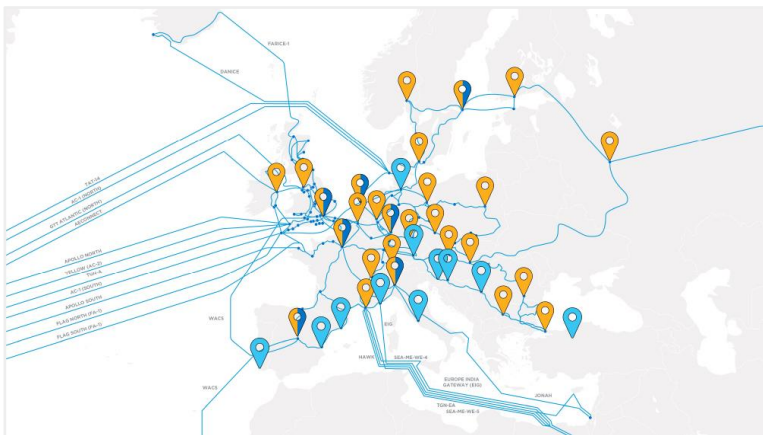
Future Locations

Map information above is current as of 2020. Information is subject to change. Lumen's global network is made up of owned, leased access and IRU segments, which are not distinguished on this map. Lumen engages in-region carriers to provide services in some markets.
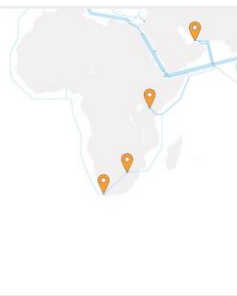
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Fact Sheet: Lumen Internet Services

Port Speeds: Ethernet connections from 10/100Mbps, 1Gbps, 10Gbps, and *100Gbps

Access: On-net and off-net options including Ethernet Switched Access, Wavelengths, Ethernet Private Line* & Cross-Connects

Billing Options: Flat Rate; Commit+Usage Based (burstable) and Aggregate Billing

Service Features: IP addressing; DNS; BGP or Static Routing; IPv4 and IPv4/IPv6 Dual Stack; Link Aggregation (LAG) and multiple diversity options

Global Network: North America (NA), Asia-Pacific (APAC), Europe, Middle East, Africa (EMEA), Latin America (LATAM) – See our Network Maps

Support: 24/7 dedicated operational support from experienced IP and security professionals

Reliability: Backed by leading SLAs in the Lumen Service Level Agreement

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Lumen Internet Service Products

Lumen® Dedicated Internet Access

Dedicated Internet Access (DIA) service provides Internet access for large enterprise, mid-market, government, education and regional provider customers over the Lumen global Tier 1 Internet backbone.

- Switched Ethernet Access, Wavelengths & Cross-Connects
- Port speeds up to 10Gbps
- Available Lumen-provided Managed Network Services
- Combine with Lumen OTT products like SD-WAN, Voice, Conferencing and UC&C
- Layer on security products like Adaptive Network Security, DDoS and Professional Security Services
- Building Extension available to extend service from the Network Demarcation Point to the desired location within your building

Lumen® High Speed IP

High Speed IP (HSIP) serves Web-Scalers, Content Providers, International/Converged Carriers and VoIP Service Providers that need an efficient, secure Internet service to support market expansion and customer growth.
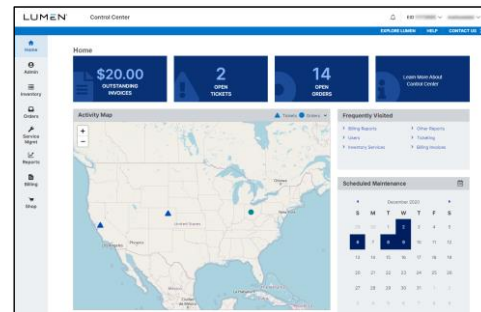
- Switched Ethernet Access, Ethernet Private Line, Wavelengths and Cross-Connects
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- Combine with Lumen OTT products like Voice, Conferencing and UC&C
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Lumen® Control Center

Comprehensive self-service solution offering increased visibility and control

Personalized dashboard
Quick access to business-critical information, putting control of your services at your fingertips

On demand order capabilities
Create, cancel, change, disconnect orders and view status and track progress

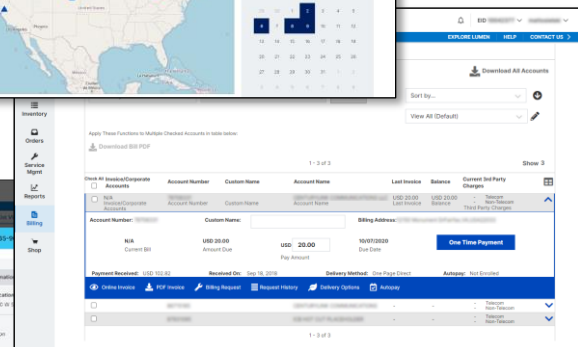**Simplified service management**
Create, view, update, escalate or cancel tickets and receive proactive notification of activity and maintenance across your services

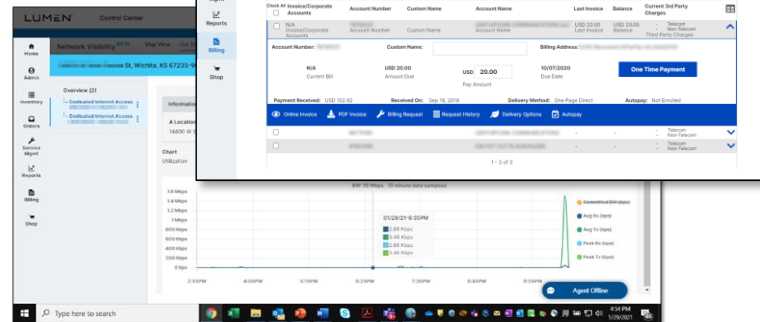**Robust reports and network tools**
Monitor and manage your network performance

Convenient and secure billing
Easily view, download and analyze your invoices and pay them online
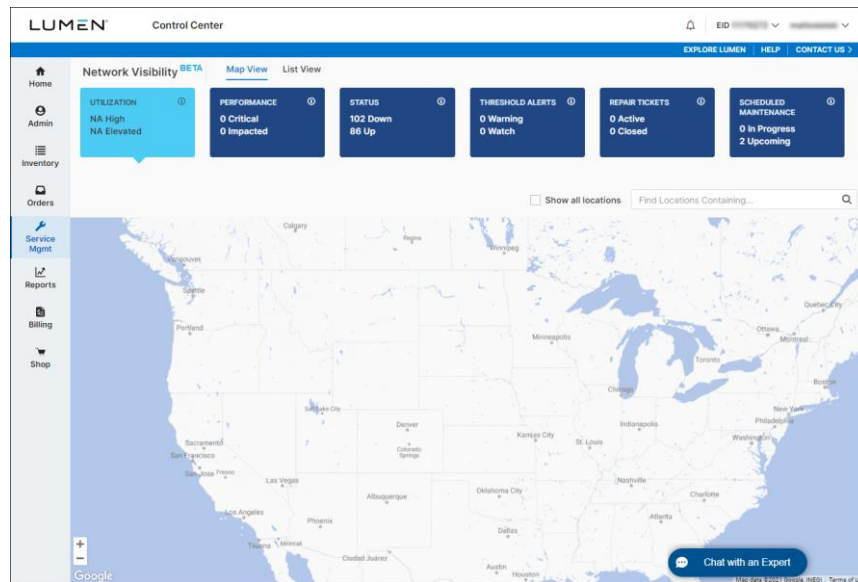
Learn more about Lumen Control Center
https://www.lumen.com/help/en-us/control-center.html

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Lumen Network Visibility dashboard

Use Network Visibility to monitor or review performance of your Lumen services

- Isolate a location or service quickly, then view utilization or performance details

- Navigate using the Map view or switch to List view to utilization or performance by service

- Set performance thresholds and be notified if a service exceeds them

- View open repair tickets and scheduled maintenance information by location, by service

- View trend analysis of utilization patterns and plan for circuit upgrades, configuration changes, and scaling

*Availability and features may be limited for certain Internet services and/or locations.

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Industry recognition

Gartner

2020: **Leader Position** in the Global Network Services Magic Quadrant

FROST & SULLIVAN

2020: **Lumen U.S. Market Share is #1 -** Disruptive Technologies Assessment of the U.S. Wavelength Services Market, Forecast to 2025

FORRESTER

2020: **Lumen is a Strong Performer** - WAVE SD-WAN Services

IDC

2020: **Lumen is Major Player** in MarketScape Worldwide Communications SP SD-WAN Managed Services Vendor Assessment

GlobalData.

2020: **Lumen Overall Strong** - Business Services U.S. & Global Enterprise Report
2020: **Lumen Overall Strong** - WAN Services Report

VERTICAL SYSTEMS GROUP

2020: **Lumen #1** in Mid-Year U.S. Carrier Ethernet Services Leaderboard

Microsoft Azure

2020: **Lumen is among the first** Microsoft Azure Peering Service ISP partners in North America

LUMEN®

Customer impact

Consistent service & global experience

Easily scalable and adaptable to future initiatives

Enhanced performance, control and capacity

Hyper connected to the public and private cloud

Vast geographic reach and capability

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