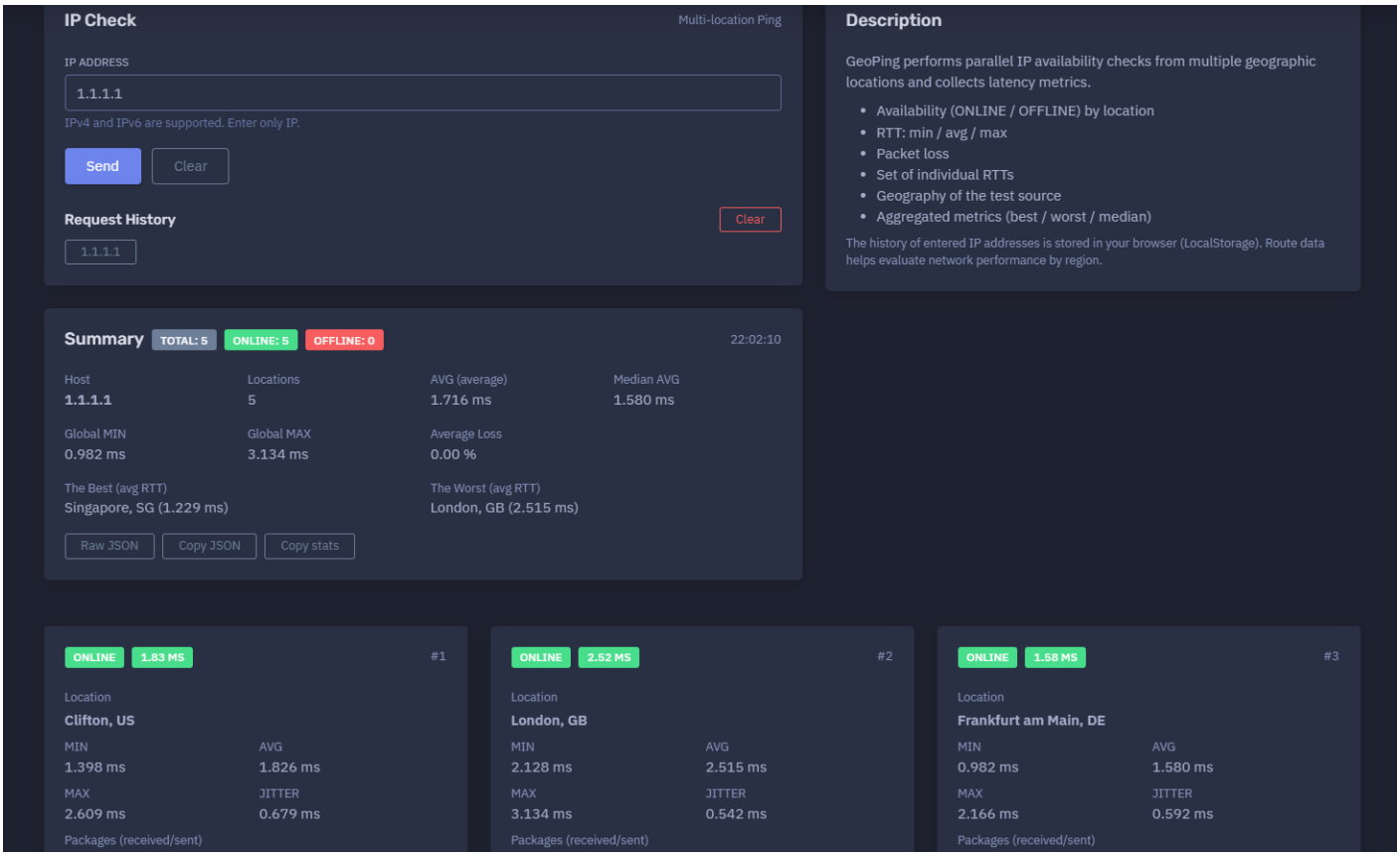
GeoPing | Multi-Location IP Availability & Latency Check



The platform available at **https://dash.niamonx.io/geoping** — known as **GeoPing** — is a multi-location network diagnostic tool within the NiamonX platform. It allows users to check IPv4 and IPv6 availability from several geographic locations at the same time and compare latency, packet loss, jitter, and route quality by region.

Overview of the Service

GeoPing is designed to help users understand how reachable and responsive an IP address is from different parts of the world.

Unlike a single-location ping test, GeoPing performs parallel checks from multiple geographic nodes and aggregates the results into a structured report. This makes it useful for identifying regional connectivity differences, routing problems, CDN behavior, network instability, and global availability issues.

The tool is intended for network engineers, DevOps teams, SOC analysts, system administrators, infrastructure owners, hosting providers, cybersecurity teams, and technical users who need to evaluate IP-level connectivity from several locations.

GeoPing supports:

- IPv4 addresses
- IPv6 addresses
- Multi-location availability checks
- Regional RTT comparison
- Packet loss analysis
- Jitter measurement
- Best / worst location detection
- Median and average latency metrics
- Local browser-based request history

The tool accepts only IP addresses. Domains, URLs, ports, and paths are not supported in this module.

? How the Tool Works

When a user enters an IPv4 or IPv6 address, GeoPing launches parallel availability checks from several geographic locations.

Each location sends multiple network echo requests to the target IP. The tool then calculates per-location metrics and global aggregated statistics.

The result includes:

- Overall number of test locations
- Number of online locations
- Number of offline locations
- Average RTT across locations
- Median average RTT
- Global minimum RTT
- Global maximum RTT
- Average packet loss
- Best location by average RTT
- Worst location by average RTT
- Per-location availability status
- Per-location minimum, average, and maximum RTT
- Per-location jitter
- Packets received / sent
- Packet loss percentage

- Individual RTT values

Example summary:

```
Total: 5
ONLINE: 5
OFFLINE: 0
Host: 1.1.1.1
Locations: 5
AVG: 1.716 ms
Median AVG: 1.580 ms
Global MIN: 0.982 ms
Global MAX: 3.134 ms
Average Loss: 0.00%
Best: Singapore, SG
Worst: London, GB
```

This allows users to quickly understand whether the IP is globally reachable and whether any region has unusual latency or packet loss.

? What Can Be Checked

GeoPing supports direct IP address checks.

Supported input types:

- IPv4 address
- IPv6 address

Valid examples:

```
1.1.1.1
```

```
8.8.8.8
```

```
2606:4700:4700::1111
```

Unsupported input examples:

```
example.com
```

```
https://example.com
```

```
1.1.1.1:443
```

```
example.com/path
```

GeoPing expects only a clean IPv4 or IPv6 address.

?? Check Interface

The GeoPing interface contains a simple input field and result sections.

IP Address

The user enters the target IP address.

Example:

```
1.1.1.1
```

The interface indicates that IPv4 and IPv6 are supported and that only an IP address should be entered.

After the request is processed, the tool displays:

- Summary block
- Per-location result cards
- Individual RTT lists
- Packet loss values
- Request history

? Summary Section

The **Summary** section provides a global view of the test.

Typical fields include:

Field	Description

Total	Total number of locations used for the test
ONLINE	Number of locations where the IP responded
OFFLINE	Number of locations where the IP did not respond
Host	Checked IP address
Locations	Number of geographic test sources
AVG	Average latency across test locations
Median AVG	Median of per-location average RTT values
Global MIN	Lowest RTT measured across all packets and locations
Global MAX	Highest RTT measured across all packets and locations
Average Loss	Average packet loss across all locations
Best	Location with the lowest average RTT
Worst	Location with the highest average RTT

Example:

```
ONLINE: 5
OFFLINE: 0
AVG: 1.716 ms
Average Loss: 0.00%
Best: Singapore, SG
Worst: London, GB
```

This block helps users quickly identify whether the target is reachable globally and which regions have the best or worst connectivity.

? Multi-Location Testing

GeoPing runs checks from multiple geographic locations.

Example locations may include:

- Clifton, US
- London, GB
- Frankfurt am Main, DE
- Amsterdam, NL
- Singapore, SG

Each location has its own result card showing availability and latency metrics.

This is useful because network performance can vary significantly by region.

For example:

- A target may be fast from Europe but slow from Asia.
- A CDN or anycast IP may route each region to a nearby node.
- A firewall may allow traffic from one region but block another.
- A routing issue may affect only one geography.
- A hosting provider may have regional packet loss.

? Availability Status

Each location returns an availability status.

Common statuses:

Status	Meaning
ONLINE	The IP responded from that location
OFFLINE	No response was received from that location
UNKNOWN	The result could not be confidently determined

Example:

```
ONLINE
1.83 ms
Location: Clifton, US
```

If the IP is online from some regions and offline from others, this may indicate routing filters, regional firewall rules, DDoS protection behavior, provider issues, or temporary network problems.

?? RTT Metrics

RTT means **Round-Trip Time**. It measures how long a packet takes to travel from the test location to the target IP and back.

Each location card may include:

- MIN RTT
- AVG RTT

- MAX RTT
- JITTER
- RTT list

Example:

```
Location: Frankfurt am Main, DE
MIN: 0.982 ms
AVG: 1.580 ms
MAX: 2.166 ms
JITTER: 0.592 ms
Packets: 3/3
Losses: 0%
```

Minimum RTT

The fastest response observed from that location.

Average RTT

The average response time from that location.

Maximum RTT

The slowest response observed from that location.

RTT List

The individual response times for each packet.

Example:

```
RTT list: 1.250, 1.188, 1.250
```

? Jitter

Jitter measures the variation between individual RTT values.

Low jitter means the connection is stable.

High jitter may indicate:

- Network congestion
- Routing instability
- Provider-level issues
- Packet scheduling delays
- Wireless or last-mile problems
- Intercontinental routing instability
- Saturated links
- Temporary packet queuing

Example:

```
JITTER: 0.036 ms
```

A low jitter value is especially important for real-time applications such as VoIP, video calls, gaming, streaming, remote desktops, and interactive services.

? Packet Loss

Packet loss shows how many requests failed compared to how many were sent.

Example:

```
Packages received/sent: 3/3
Losses: 0%
```

Packet loss interpretation:

Packet Loss	Meaning
0%	Excellent delivery
1–2%	Minor loss, usually acceptable but should be monitored
3–5%	Noticeable instability
5–10%	Significant network problem
10%+	Severe connectivity issue

Packet loss from one region but not others may indicate a regional routing problem or filtering issue.

? Best and Worst Locations

GeoPing automatically identifies the best and worst locations by average RTT.

Example:

```
The Best: Singapore, SG (1.229 ms)
The Worst: London, GB (2.515 ms)
```

Best Location

The location with the lowest average RTT.

This usually indicates the shortest or most efficient route from the test source to the target.

Worst Location

The location with the highest average RTT.

This may indicate longer routing distance, less efficient routing, congestion, filtering, or provider-level latency.

The best and worst labels are comparative within the current test, not absolute judgments of the target infrastructure.

? Aggregated Metrics

GeoPing includes global aggregated metrics across all locations.

Global Average

Shows the overall average latency across test sources.

Median Average

Shows the median of per-location average RTT values.

Median is useful because it is less affected by one unusually slow or fast location.

Global Minimum

Shows the fastest observed response from all locations.

Global Maximum

Shows the slowest observed response from all locations.

Average Loss

Shows the average packet loss across all test locations.

These metrics help users understand global route quality at a glance.

? Latency Interpretation

Latency depends on geography, routing, peering, infrastructure, congestion, and target configuration.

General RTT interpretation:

Average RTT	Interpretation
0–20 ms	Very low latency
20–60 ms	Good latency
60–120 ms	Moderate latency
120–250 ms	High latency
250–300+ ms	Very high latency, often intercontinental or problematic
Timeout	No response, filtering, or target unavailable

Important: low latency from multiple regions may indicate anycast routing, CDN edge infrastructure, or globally distributed network design.

High latency from one region may not mean the target is down. It may simply reflect distance, routing path, or provider differences.

?? Anycast and CDN Interpretation

GeoPing is especially useful for checking anycast and CDN-style infrastructure.

For anycast services, the same IP address can be routed to different physical or logical locations depending on where the request originates.

This can explain why an IP may show very low latency from multiple regions at the same time.

Possible interpretations:

- Anycast routing is working efficiently.
- CDN edge nodes are close to the test sources.
- DNS resolver or public service infrastructure is distributed.
- Each region may reach a different backend node.
- One region may be affected by routing or peering issues while others are healthy.

GeoPing does not prove the exact physical destination server. It shows observed connectivity from each test source.

? Request History

GeoPing stores entered IP addresses in the user’s browser through LocalStorage.

Important behavior:

```
The history of entered IP addresses is stored in your browser.
```

History may include:

- Checked IP address
- Timestamp
- Summary status
- Average RTT
- Best / worst locations
- Packet loss values

The history is local to the browser and may be cleared when the user deletes browser data, switches devices, or uses another browser profile.

On shared devices, users should clear local history when checked IPs are sensitive.

? Key Features

Multi-Location Ping

Checks the same IP address from multiple geographic test sources.

IPv4 and IPv6 Support

Supports both IPv4 and IPv6 targets.

Parallel Availability Checks

Runs availability checks across several regions.

Per-Location Results

Each location shows status, RTT metrics, jitter, packets, loss, and RTT list.

Aggregated Summary

Shows global metrics such as average RTT, median, global min, global max, and average loss.

Best / Worst Location Detection

Automatically identifies the fastest and slowest test locations by average RTT.

Packet Loss Analysis

Displays packet loss per location and average loss globally.

Jitter Measurement

Shows latency stability for each geographic source.

Local History

Stores entered IPs locally in the browser.

Regional Route Insight

Helps compare network performance by geography.

? Recommended Diagnostic Workflow

A practical GeoPing workflow should follow these steps.

1. Enter the IP Address

Use only IPv4 or IPv6. Do not enter domains, URLs, ports, or paths.

2. Review Global Summary

Check total locations, online count, offline count, average RTT, median RTT, and average packet loss.

3. Identify Best and Worst Locations

Compare the fastest and slowest regions.

4. Review Per-Location Cards

Check each location’s minimum, average, maximum RTT, jitter, and packet loss.

5. Look for Regional Problems

Identify locations with high RTT, high jitter, packet loss, or offline status.

6. Compare With Expected Geography

Consider whether the target is expected to be close to the fastest region.

7. Repeat if Needed

Run another check if the issue appears temporary or inconsistent.

8. Correlate With Other Tools

Use traceroute, HTTP checks, DNS checks, CDN monitoring, firewall logs, and provider status pages for deeper analysis.

9. Document Findings

Use the summary and per-location metrics in troubleshooting reports or incident notes.

10. Validate Critical Issues

Confirm important outages or routing problems with additional monitoring sources.

? Common Use Cases

GeoPing can support many technical workflows.

Global Availability Check

Confirm whether an IP is reachable from multiple regions.

CDN and Anycast Testing

Check how an anycast IP behaves from different geographic sources.

Regional Routing Diagnostics

Identify whether latency or packet loss affects specific regions.

Incident Response

Quickly determine whether an outage is global or region-specific.

Hosting Provider Comparison

Compare responsiveness of infrastructure from different test locations.

Network Performance Review

Evaluate latency consistency and jitter across regions.

Firewall and Filtering Validation

Check whether an IP responds from some countries but not others.

SLA and Monitoring Support

Use multi-location metrics as supporting evidence for service-quality review.

?? Result Interpretation Notes

GeoPing results should be interpreted carefully.

Important limitations:

- Some hosts block echo requests.
- Offline from one region does not always mean the service is down.
- A host can serve HTTP traffic even if ping is blocked.
- Firewalls may treat test locations differently.
- Anycast IPs may route each location to a different node.
- RTT depends on distance, routing, and provider peering.
- Small packet samples provide a quick diagnostic snapshot, not long-term monitoring.
- Local or regional congestion may affect results temporarily.
- GeoPing does not identify the exact physical server behind an anycast IP.

For critical production systems, GeoPing should be combined with continuous monitoring and application-level checks.

?? Security, Privacy & Responsible Use

GeoPing is intended for lawful network diagnostics and infrastructure monitoring.

Acceptable use cases include:

- Checking your own servers
- Testing authorized infrastructure
- Reviewing regional availability
- Diagnosing packet loss
- Measuring latency and jitter
- Supporting incident response
- Monitoring CDN and anycast behavior
- Validating firewall and routing behavior
- Creating troubleshooting reports

Users should follow responsible use principles:

- Do not use the tool to harass or overload third-party systems.
- Do not repeatedly test targets without a legitimate reason.
- Do not treat ping failure as proof of full service outage.
- Do not use results as the only source for critical operational decisions.
- Respect applicable laws and network policies.
- Treat local history as potentially sensitive on shared devices.

?? Technical Highlights

- Multi-location IP ping tool
- Available at `dash.niamonx.io/geoping`
- Supports IPv4
- Supports IPv6
- IP-only input
- No domains or URLs accepted
- Parallel checks from multiple geographic locations
- Availability status by location
- Global ONLINE / OFFLINE summary
- Minimum RTT per location
- Average RTT per location
- Maximum RTT per location
- Jitter per location
- Packets received / sent
- Packet loss per location
- Individual RTT list
- Global average RTT
- Median average RTT
- Global minimum RTT
- Global maximum RTT
- Average packet loss
- Best location by average RTT
- Worst location by average RTT
- Source geography display
- LocalStorage request history
- Suitable for network diagnostics, DevOps, SOC, incident response, CDN checks, and global availability monitoring

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? Usage Hints

- Enter only an IPv4 or IPv6 address.
- Do not enter domains, URLs, ports, or paths.
- Use the global summary to check overall availability.
- Use per-location cards to identify regional issues.
- Compare best and worst locations for route quality.
- Check packet loss before judging reliability.
- Check jitter to detect unstable latency.
- High RTT may be normal for long-distance routing.
- Offline from one region may indicate filtering, not full outage.
- Repeat tests if the result is unexpected.
- Use additional diagnostics for production incidents.
- Local history is stored in the browser through LocalStorage.

? Contact Information

For technical, legal, abuse, privacy, or support-related inquiries, users can contact the NiamonX team directly:

support@niamonx.io — Technical Support

other@niamonx.io — General Inquiries

takedown@niamonx.io — Privacy or Data Removal Requests

legal@niamonx.io — Legal and Compliance Matters

Alternative contact channel:

□□ Helpdesk: https://support.niamonx.io/

Summary

NiamonX GeoPing is a multi-location IP availability and latency diagnostic tool for IPv4 and IPv6 addresses. It performs parallel checks from several geographic locations and returns global availability, per-location RTT metrics, packet loss, jitter, individual response times, best and worst locations, median latency, and aggregated performance indicators.

The tool is designed for global availability checks, CDN and anycast validation, routing diagnostics, incident response, DevOps workflows, SOC triage, and infrastructure monitoring. Results should be treated as a regional network-performance snapshot and validated with additional diagnostics for critical decisions.

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