

How can I check whether the user's network connection is roaming or metered?



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There are few ways of doing this.

The classic Win32 way is to call `GetNetworkConnectivityHint` :

```
#include <iphlpapi.h>

NL_NETWORK_CONNECTIVITY_HINT connectivityHint{};
auto error = GetNetworkConnectivityHint(&connectivityHint);
if (error != NO_ERROR) { /* handle the error somehow */ }
```

The `NL_NETWORK_CONNECTIVITY_HINT` contains information about the type of network you're on. We'll come back to this structure later.

The Windows Runtime way is a little different.

```
#include <winrt/Windows.Networking.Connectivity.h>

auto connection = winrt::Windows::Networking::Connectivity::
    NetworkInformation::GetInternetConnectionProfile();
if (!connection) { /* no internet connectivity */ }
auto cost = connection.GetConnectionCost();
```

The `NL_NETWORK_CONNECTIVITY_HINT` and the `ConnectionCost` provide roughly the same information.

<code>NL_NETWORK_CONNECTIVITY_HINT</code>	<code>ConnectionCost</code>
<code>ConnectivityLevel</code>	N/A
<code>ConnectivityCost</code>	<code>NetworkCostType</code>
<code>ApproachingDataLimit</code>	<code>ApproachingDataLimit</code>
<code>OverDataLimit</code>	<code>OverDataLimit</code>

Roaming	Roaming
N/A	BackgroundDataUsageRestricted

The `ConnectivityLevel` is N/A for `ConnectionCost` because the internet connection profile by definition has internet connectivity, so there's no need for it to tell you.

The `NL_NETWORK_CONNECTIVITY_HINT` does not tell you whether background data usage is restricted.

The `ConnectivityCost` / `NetworkCostType` tells you how much the network costs.

- Unknown: No information available
- Unrestricted: Unlimited
- Fixed: Can use up to a fixed limit
- Variable: Pay by usage

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