

A Network Service Provider with Unique Privacy and Security Capabilities

If they can't find you...they can't attack you

Enterprise-level cyber attacks continue to increase dramatically. Adversaries are targeting your network right now and are becoming increasingly more sophisticated and persistent — so it's no longer a question of **if** they will get your valuable data and communications, it's a matter of **when**. You must protect your network first...it is too late when they are already through the front door.

The Challenge

While most organizations are concerned with and try to address security in order to protect their customers' data, Network Privacy on the enterprise level is usually not considered. For enterprises, Network Privacy is the ability to protect their own identity while in transit through the network. Protecting an enterprise identity (i.e. IP address) protects the data and intellectual property that transits through the cloud.

You need to be proactive. The "build a bigger fortress, dig a deeper moat" model doesn't work. In today's environment, your network cannot be a fixed target. Network connections need to be temporary, dynamically shifting, and layered with additional protections to keep your network safe.

Moving Target Defense (MTD) is increasingly being researched and analyzed as an effective paradigm to beat cyber attacks.

NetAbstraction uses **obfuscation and anonymization** to go beyond MTD.

The Fundamentals

Anyone directly using the Internet exposes their IP address, location and network identity. Any external connection that your company has is a potential source of attack on your data and your systems, and even more problematically, typical networks are fixed, static and easily located. If you notice a breach, you've already lost the battle. Your adversaries have found your network; they know who you are and where you are.

The Solution

NetAbstraction's carrier-class Network Privacy-as-a-Service protects your identity and provides additional privacy and security for your communications on the Internet. NetAbstraction's patented design **obscures** and varies network pathways while protecting organization identities and systems via implementation of Software-Defined Network (SDN) virtualization across multiple cloud providers.

NetAbstraction at-a-Glance

- ❖ **Disguise**
 - ❖ **Shift**
 - ❖ **Protect**
 - ❖ **Increase Security**
 - ❖ **Leverage Agility**
- ❖ **Disguises** your network communications' pathways.
 - ❖ **Dynamically shifts** your online activity without affecting ongoing communications.
 - ❖ **Protects your subscriber information** held in commercial provider's databases which exposes who you are.
 - ❖ **Increases layers of security** in your network transport to augment security protections of traditional commercial service providers.
 - ❖ **Boosts your network's agility and resiliency** by quickly standing up and tearing down network communication pathways.

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Why NetAbstraction?

NetAbstraction transparently distributes the communications within and across multiple clouds and regularly churns the underlying network infrastructure. The dynamic shifting of communications across multiple commercial providers and use of **multi-hop transport** makes actual user information, and origination location and identities a very difficult target for hackers, search engine optimization companies or other privacy threats.

What NetAbstraction Can Do That Others Can't

NetAbstraction is the **future of networking for businesses**. MPLS circuits and leased lines are expensive. They are also fixed and limit the ability to elastically meet bandwidth demands. When considering the use of the Internet, there are significant cost savings, but performance and security are equally important.

NetAbstraction leverages Software-Defined Networking (SDN) technology, coupled with additional layers of privacy and security protection to provide an opportunity for businesses to leverage the Internet for transport. However, SDN is still in its maturation process. NetAbstraction's patented design addresses key fundamental deficiencies in SDN.

We improve performance, increase security, and increase agility to provide better resiliency and a reduced cyber-attack vector.

Network Privacy-as-a-Service (NPaaS) is proactive, not reactive.

Innovative deployment of patented SDN technology allows users to:	Extensive operational protections and identity management tradecraft:	Superior network performance, industry application and domain:
<ul style="list-style-type: none"> ✦ Stay "hidden" within commercial provider infrastructure. ✦ Create a logically-separated network that insulates each customer from vulnerabilities in the commercial providers' physical infrastructure. ✦ Leverage cost-effective Internet-based transport for enterprise networking. ✦ Achieve 100% assurance control of network routing decisions. 	<ul style="list-style-type: none"> ✦ Network architecture is implemented using multiple commercial providers. ✦ Multiple intermediary nodes ("hops") provide additional layers of obfuscation. ✦ Surrogates used to acquire and maintain network infrastructure. ✦ Exit (egress) nodes are globally implemented using multiple providers both foreign and domestic. ✦ Masked billing and disguised and/or hidden routing. 	<ul style="list-style-type: none"> ✦ Carrier-class speed and performance. ✦ Network that has been extensively "red-teamed" by both USG and commercial organizations for operational design, security and performance— approved for full range of cyber operations. ✦ Choice of globally distributed egress nodes across multiple providers. ✦ NetAbstraction is NOT a proxy.

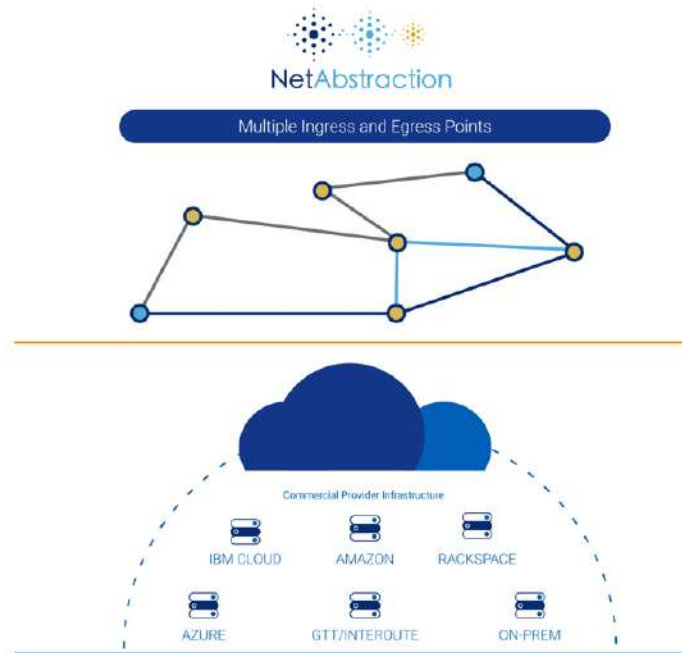
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NetAbstraction Security Features

How NetAbstraction augments the security capabilities of commercial cloud providers:

<p>Disguises your network communications pathways – if they can't find you...they can't attack you!</p>	<p>Utilizes multiple transport providers, technologies and geographic locations to disperse and layer any points of possible attack.</p>	<p>Frequently rotates and replaces the underlying transport infrastructure, as well as associated subscription identities.</p>
<p>Dynamically shifts the network on-the-fly, without impacting customer communications.</p>	<p>Provides an additional layer of virtualization within the commercial cloud providers' infrastructure to ensure an isolated layer of protection for our servers.</p>	<p>Uses independently controlled end-to-end, logically separated tunnels, with options for end-to-end encryption.</p>

NetAbstraction Network Privacy-as-a-Service



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Securing Digital Transformation

NetAbstraction provides carrier-class Network Privacy-as-a-Service to disguise and protect your online identity, assuring additional privacy and security for your communications on the Internet and in the cloud. NetAbstraction provides secure, varied and non-apparent network connectivity, and a range of identity management and persona attribution options to alter or reduce the cyber-attack profile of your network.

With NetAbstraction's **Network Privacy-as-a-Service** you have the ability to augment and/or **replace legacy MPLS and leased lines**.

- ✳ **Disguise and protect** WAN communications by altering and reducing your organization's attack surface.
- ✳ **Improve performance** with intelligent network routing decisions on a global basis.
- ✳ **Total-cost-of-ownership (TCO)** of your overall WAN implementation and maintenance can be **significantly reduced by** leveraging cost-effective Internet-based transport that provides privacy, security, and intelligent and controlled routing.
- ✳ **Increase agility and create redundancy** within your network – dynamically shift network connections on a global basis within and across multiple providers.
- ✳ **Manage your network and data** with complete insight, access, and control – meet GDPR, HIPAA and other data governance requirements effortlessly.

NetAbstraction Network Privacy-as-a-Service Solutions

Proactive Privacy Network

Next-Generation Technology for Network Privacy and Internet Identity Protection

- ✳ **Augments or replaces** current MPLS circuits or existing WAN connections.
- ✳ **Establishes protected communication channels** for your enterprise on the Internet and in the cloud.
- ✳ **Integrates seamlessly** with SD-WAN solutions to reduce cost, while increasing overall network privacy, security and agility.

NetEnclave™

Protected Hosting and Crisis Communications

- ✳ **Secure sensitive data and host applications** in a disguised fashion within and across multiple public/private clouds.
- ✳ **Control access** with granular end-user policies and utilize non-traceable connectivity to protected hosting sites.
- ✳ **Provide protected, highly-resilient and non-affiliated communications** during crisis events: cyber incidents, natural disasters and catastrophic events.
- ✳ **Leverage disguised, out-of-band network infrastructure** to lower your cyber profile and stay communicating.

Identity-Protected Internet Access

Protect your Identity and location while securely **examining cyber threats, conducting online research and investigations, and enabling cyber activities** without attribution to you.

Includes a suite of interface options:

- ✳ **Malware-protected Browser** for discreet online research.
- ✳ **OpenVPN-based connections** to lower your cyber profile.
- ✳ **NetAbstractionTS (Travel Secure): private and secure access** to the Internet anywhere via a mobile wireless Wi-Fi hotspot.

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How NetAbstraction Works

NetAbstraction is a subscription network service. We have implemented a shared service offering that provides basic network infrastructure that can be augmented to support customer-specific requirements. The NetAbstraction service is only available to organization users, not private individuals.

NetAbstraction Interfaces and Options to Connect

NetAbstraction works on virtually any Internet-enabled device and provides several options to connect.

“Set it up and forget it.”

NetAbstraction is simple to use and doesn't require any specialized training or complicated steps to initiate Internet access.

1. **Software-based VPN** that provides full device functionality and dynamic route selection capabilities
2. **Hardware-based configurations:** servers, routers, hardware-based VPNs, etc.
3. Complete **interoperability with Software-Defined-WAN (SD-WAN) and Software-Defined Perimeter (SDP)** capabilities
4. A number of **lightweight browser-based solutions** that provide protection from malware
5. **Custom interfaces** based on customer requirements

About Us



NetAbstraction protects identities and systems by intelligently selecting and obscuring global network pathways of the Internet. The philosophy of NetAbstraction, Inc. is to provide privacy and security to our customers' network by protecting their identity.

Developed from roots in the U.S. Intelligence Community, NetAbstraction's technology is born from our expertise in designing, creating and implementing non-traditional and non-attributable telecommunication networks in support of critical U.S. Intelligence Community missions.

Now, that same unparalleled technology is available to enterprises that need to protect their information, people and networks from the growing pool of cyber attacks.

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