

# Network Access Control (NAC) Market, Global, Forecast to 2022

NAC Evolving as Enterprise Networks Expand Beyond Secure Walls

A Frost & Sullivan White Paper

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## EMERGING TRENDS DRIVING NAC TO EVOLVE BEYOND THE “TRADITIONAL” AAA FUNCTIONALITY

Network access control (NAC) is a foundational network security defense. The premise of NAC is the security principle that end users/endpoints can be provided policy-based access to different parts of a network and blocked, quarantined, or redirected if there are indicators of compromise (IOC) or vulnerabilities. NAC also provides endpoint visibility after data passes a cybersecurity perimeter, but before data is enriched and taken into storage by a security information and event management (SIEM) platform.

Rules to ensure legitimate end-user device and role-based access are critical to the overall health of the network. Devices and endpoints are ultimately where intrusions to networks matter and the last chance to defend or detect a network breach. Endpoint devices include desktop PCs, notebook PCs, servers, tablets, smartphones, virtual desktops and various Internet of Things (IoT) devices.

The “traditional” focus of NAC has been authentication, authorization, and accounting (AAA). At its core, NAC is all about enabling mobility and dynamic security. However, the enterprise network no longer sits within four secure walls. It extends to wherever employees and data travel. Mobility, digitization, and IoT are changing the way we live and work. The result is that networks are expanding, resulting in increasing complexity of managing resources and disparate security solutions.

NAC is evolving toward improved visibility and monitoring of network devices, more security features, and orchestration with other security products such as next-generation firewalls (NGFW), SIEM, and web content filters. Today’s NAC security solutions must also deliver profiling, policy enforcement, guest access, BYOD on-boarding and more to offer IT-offload, enhanced threat protection, and an improved end-user experience.

The increasing level of malware and cyber attacks is also driving additional NAC investments. Network visibility into endpoints and devices is critical. Every device on a network is a potential attack or reconnaissance point that must be discovered and secured. NAC vendors continue to innovate to meet new usage cases—most notably IoT, BYOD and cloud. The result is sustained growth for the NAC market.



**The enterprise network no longer sits within four secure walls. It extends to wherever employees and data travel. Mobility, digitization, and IoT are changing the way we live and work.**



NAC is evolving and, in addition to the IEEE 802.1X standard, most NAC vendors are supporting other protocols such as Simple Network Management Protocol (SNMP). NAC is evolving from a physical appliance deployed on-premises. Virtual appliances, software deployment, and NAC as SaaS are growing.

## NAC MARKET OVERVIEW

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There are several key points to note about the NAC market in 2018.

- NAC is a rapidly growing market. Revenues are expected to grow from 2017 to 2022 at a 16.9% CAGR, reaching \$2.1 billion.
- Emerging trends driving NAC demand are the growth of IoT, mobility, BYOD, and cloud. Essentially, the network enterprise is expanding beyond the “traditional” secure walls. There is a growing wave of unmanaged devices driven by IoT and mobility.
- NAC is evolving beyond the “traditional” AAA functionality. Vendors are developing improved visibility, agentless technology, granular policy settings, classification, segmentation, and contextual awareness.
- Security orchestration is also forming. Security vendors with broad product portfolios are integrating their solutions with NAC. Standalone NAC vendors are integrating with third-party partners.
- NAC is evolving from a physical appliance deployed on-premises. Virtual appliances, software deployment, and NAC as SaaS are growing.
- The severe shortage of skilled security professionals challenges all organizations, but more so the SMB-to-large segments than enterprise. Next-generation NAC provides tools to offload many of the functions and automate their workflows. SMB to Large organizations turn to Managed Service Providers and Managed Security Service Providers (MSP/MSSPs).

The NAC market has seen strong, steady growth for several years, driven by the increasing number and diversity of endpoint devices. The endpoint devices include desktop PCs, notebook PCs, servers, tablets, smartphones, virtual desktops, and various IoT devices. There are diverse operating systems (OSs). Each has its own management and vulnerability issues. Increasingly, endpoint devices are mobile and not on-premises. Consequently, new NAC technology is needed as network enterprises expand beyond the “traditional” secure walls.

In 2017, the NAC market reached \$942.3 million—an increase of 23.7% over 2016. The increasing number of endpoints per deployment is boosting the average selling point (ASP). NAC vendors are adding more features and capabilities. While enterprise and large enterprise customers dominate NAC, vendors seek to expand penetration into smaller segments, thus growing the market further.



**Customers are accelerating their move to the cloud. NAC vendors have cloud platforms for MSPs/MSSPs.**

Most NAC solutions are deployed as a physical appliance. However, higher growth is occurring for virtual appliances, software platforms, and NAC as SaaS. A growing trend is organizations moving workloads to the cloud, both public and private. Many NAC vendors are developing support for AWS, Azure, and other cloud computing platforms.

### **Migration to cloud and SaaS**

Customers are accelerating their move to the cloud. They are turning to the cloud for easier and more rapid deployment, energy and space savings, scalability, and reduced hardware maintenance costs. NAC vendors are extending visibility into public clouds with support for AWS, Microsoft Azure, and Google Cloud Platform. They are also extending visibility and control into private clouds, with support for VMware vSphere and NSX. The high growth areas for NAC are virtual appliances and NAC as SaaS. NAC vendors have cloud platforms for MSP/MSSPs.

## PORTNOX: GROWING WITH NAC-AS-A-CLOUD-SERVICE

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Portnox is a pure-play NAC vendor. Portnox's solutions allow an enterprise to discover and control IoT, BYOD and managed devices for secure authentication and compliance validation both on- and off-premises, and at all times. The focus of Portnox technology is to bridge the gap between endpoint compliance (risk) and network access control. Products are either on-premises software based or delivered as a cloud service (NAC-as-a-Service). The company has seen strong growth with this strategy.

The majority of traditional NAC deployments use the 802.1X protocol, an IEEE 802.1X open-standard protocol for port-based network access control. While IEEE 802.1X is an authentication standard, it is difficult to implement. For on-premises 802.1X implementation, the level of expertise required from a network engineer is high. Further adding to the challenges, there is a shortage of qualified security specialists. The growth of unmanaged devices poses further challenges for "traditional" NAC. Many of these devices are non-802.1X compliant.

Portnox addresses the issue of 802.1X complexity with one solution that supports both 802.1X and non-802.1X devices. It is delivered from the cloud in a SaaS model or on-premises in a perpetual business model.

Portnox offers two easy-to-deploy and manage NAC solutions:

- Portnox CORE for on-premises, agentless NAC
- Portnox CLEAR for cloud-based NAC (SaaS), delivering RADIUS, LDAP Connectivity and endpoint compliance validation from the cloud

These solutions can be purchased individually or in combination for a hybrid on-premises/cloud solution. Both solutions are vendor agnostic and support any SNMP-based network element or one that supports 802.1X. They connect directly to the network infrastructure equipment via native protocols.



## Portnox Vision

Since its founding in 2007, Portnox has focused on simplicity. The company has made its main focus to deliver its core values (SEE, CONTROL, and AUTOMATE) while delivering a simple experience to the user and administrator. It simplifies onboarding, operation and maintenance.

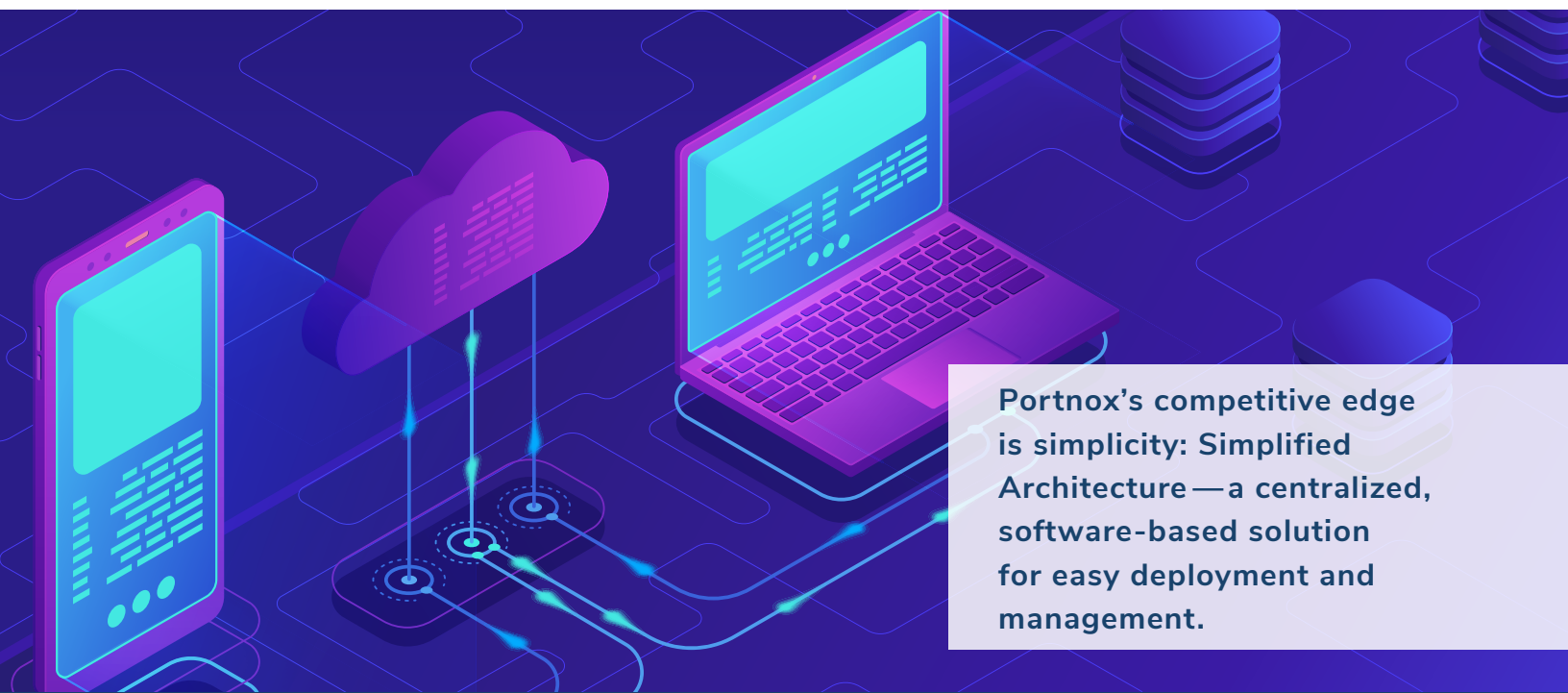
Portnox's competitive edge is simplicity: Simplified Architecture—a centralized, software-based solution for easy deployment and management, and easy 802.1X authentication or SNMP-based control.

While other NAC vendors began with delivering physical appliances, Portnox has always delivered a software solution and is the first to offer NAC as a cloud service. Portnox's solutions allow an enterprise to discover and control IoT, BYOD and managed devices for secure authentication both on- and off-premises, and at all times. Portnox's CLEAR solution delivers NAC from the cloud, which is easily and efficiently deployable within minutes. Customers do not need to invest in new hardware. CORE is an on-premises, software-based solution and CLEAR is NAC as cloud service. Both solutions function across all access layers, providing 100% coverage for a network and continuous monitoring.

Some other key points of the Portnox solution are:

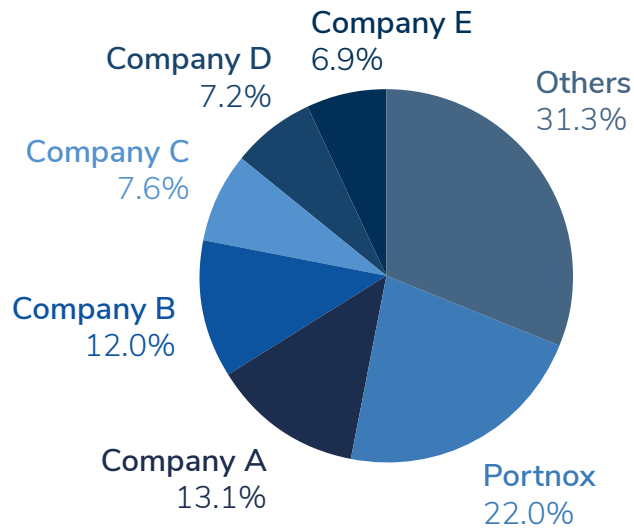
- Agentless but with an optional agent for all OSes (Windows, Linux, macOS, Android, iOS) to support specific use cases, continuous risk monitoring and compliance checks, even off-premises.
- Powerful RESTful API, which enables customers to automate threat response workflows.
- Unique profiling (fingerprinting) technique.
- Continuous risk monitoring of endpoints beyond the perimeter in conjunction with different use cases such as remote access and cloud application access.

Portnox has large enterprise customers, but most customers are in the midsize-to-large segment (100 to 5,000 users). This segment is growing faster than the overall NAC market. The company has designed its solutions for MSPs and MSSPs to further penetrate this business segment. The result is that in 2017, Portnox was the leader in SMB-to-large business segment with 22.0% market share.



**Portnox's competitive edge is simplicity: Simplified Architecture—a centralized, software-based solution for easy deployment and management.**

**Figure: NAC Market Share, SMB to Large Business Segment, 2017**



Source: Frost & Sullivan

Portnox has experienced strong growth in recent years. In 2017, in the total NAC market, Portnox garnered a 0.8 percentage point gain in market share. This was the second highest gain in market share, even though it is competing against larger, more established vendors.

Portnox operates mainly in North America (NA) and Europe, Middle East and Africa (EMEA), with most revenues in NA. Portnox operates across a broad range of vertical markets, but retail, technology and finance are the largest. With its unique NAC-as-a-service, Portnox is rapidly expanding its SaaS business. Portnox touts its simplified pricing: Flexible licensing—“only pay for what you need!” The company continues to invest in innovation, developing features and capabilities to meet market trends.







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