



What is Neuropil™?

Neuropil™ is a cyber-security-mesh for IoT and M2M integrations, which is named after the material that enables the communication and existence of all brain cell - Neuropil™ enables the information exchange through a virtual grid of connected nodes. Technically speaking neuropil™ is a C99 compliant cyber-security-mesh, which offers you:

- centralized governance, but de-centralized messaging and scalability
- embedded in security and encryption capabilities with end-to-end encryption
- automated discovery of data channels across enterprises and legacy systems
- attribute based access control to authorize data channels, as well as ownership management

IoT & IIoT Secured

The neuropil™ cyber-security-mesh is an enabler for new business models. In the field of industry 4.0 secure and authenticated data exchange between production robots and different legal entities is a must have. The neuropil™ cyber security mesh will serve you well for IoT integrations of SmartHome purposes just as well.



Application defined networks

Neuropil™ is open-source since the year 2016. It creates a secure connection as a zero-knowledge layer between devices, enterprise applications or cloud services within your own application defined network (ADN).



Encryption:

A double encryption layer to exchange signed and trusted AAA tokens enables end-to-end encryption between nodes



Authentication:

Token can be verified to identify applications, persons, devices or hosts. "Self-healing" ability, by token renewal at any time



Authorization:

Our Kerberos inspired approach decouples identity & encryption requirements without compromise for privacy and security

Easy API with supercharged encryption

When using neuropil™ you evolve against a simple API which enforces you to think about authentication and authorization measures. Once the access management is in place local processes can become globally addressable. In effect you may offer your services worldwide, in private for your employees or in the public for your business partners



Your enterprise technology innovation

Neuropil™ is being developed by the team of pi-lar GmbH with over fifteen years of experience in the field of enterprise integration. Neuropil™ middleware is just a small example of our portfolio. We also offer Platform- :



Integration:

Development of secure, scalable and lean integration components that consider AAA requirements & modern encryption techniques



Innovation:

Architecture, development and operation of modern and modular PaaS offers to exploit innovative (niche-)markets



Optimization:

Development and continuous improvement of secure, process-oriented IT-components to enable real-time interconnectivity

Appetite for construction?

Visit www.neuropil.io to evaluate and try our implementation. In case of further questions or interest in becoming a consulting partner for the neuropil™ cyber-security-mesh technology, please do not hesitate to get in touch with our team at info@pi-lar.net.



Secure business driver

Communication channels of neuropil™ are auto-discovered and double encrypted. Spend less time on error-prone configuration management and more time on business verification when you deploy your application in the cloud or on premise. Neuropil™ opens the path for significant cost reductions of your IT budget.

Privacy protection / GDPR

Neuropil™ is protecting your privacy. The DHT sets up network connections based on the hash distance. One message of 100Kb size will be split up into 100 1Kb chunks, each chunk can be routed differently to the target. Thus neuropil™ enforces the neutrality of the net and prevents side channel analysis on the network layer.

Fine grained access worldwide

In the field of robotics and industrial control it is important to give your trusted partners fine grained access to manage devices and tools. With neuropil™ it is possible to grant access rights to employees and partners on the fly based on attributes (ABAC). It is simply a matter of an authentication and authorization token to get started.

In the process of development

The functions of neuropil™ are still in the process of growth. Our team is constantly working on new attributes for the neuropil™ cyber-security-mesh - such as the neuropil™ search engine or democratic access control.



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responsible in the sense of press law
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Neuropil

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Security
Mesh

— Every information, anytime, anywhere with certainty —

**The complete cyber
security solution for any
company in any industry**