cynny space
THE SWARM

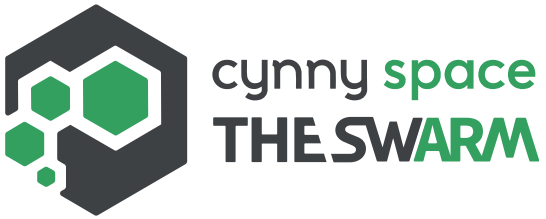
Next Generation Storage and Network Intelligence

CS3 Rome 2019 – 28/30 January 2019

IT Industry Challenges

Handling data growth

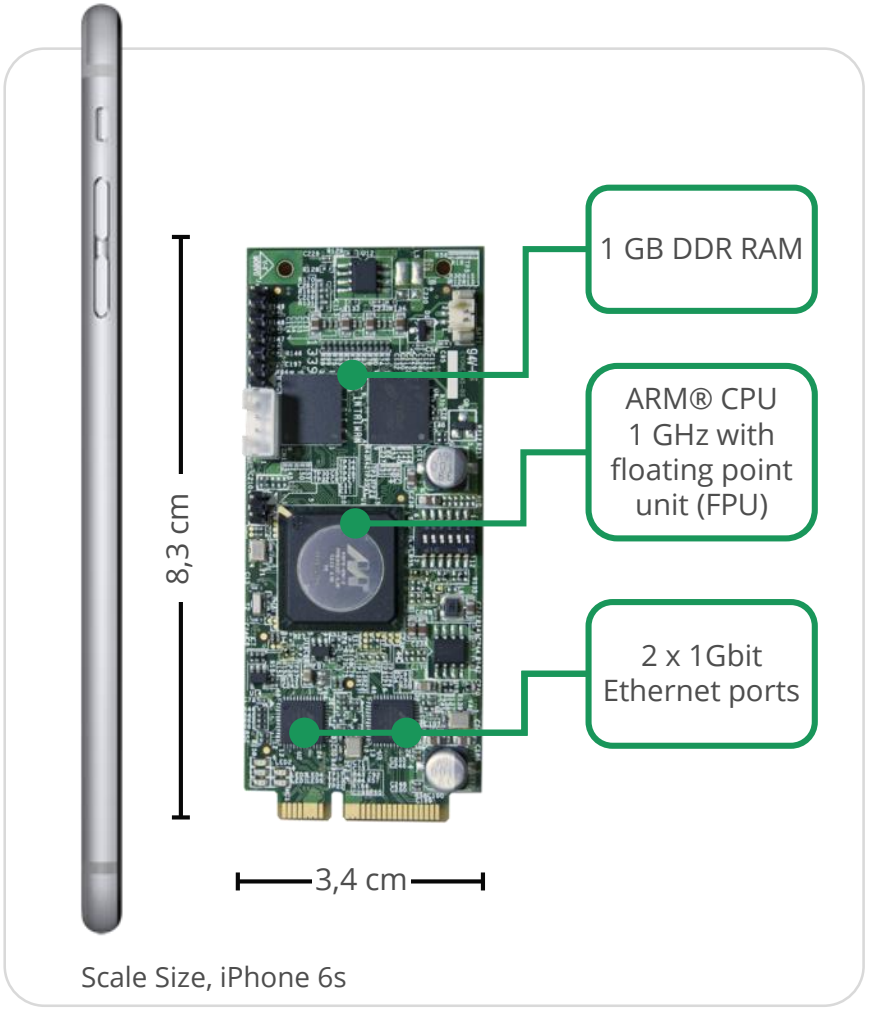
- Data doubles every two years
- Complexity increases
- IT budget under pressure



Network Intelligence

- Cybersecurity
- Business intelligence/Marketing
- Network troubleshooting and traffic policing

The SwARM – Next generation storage solution

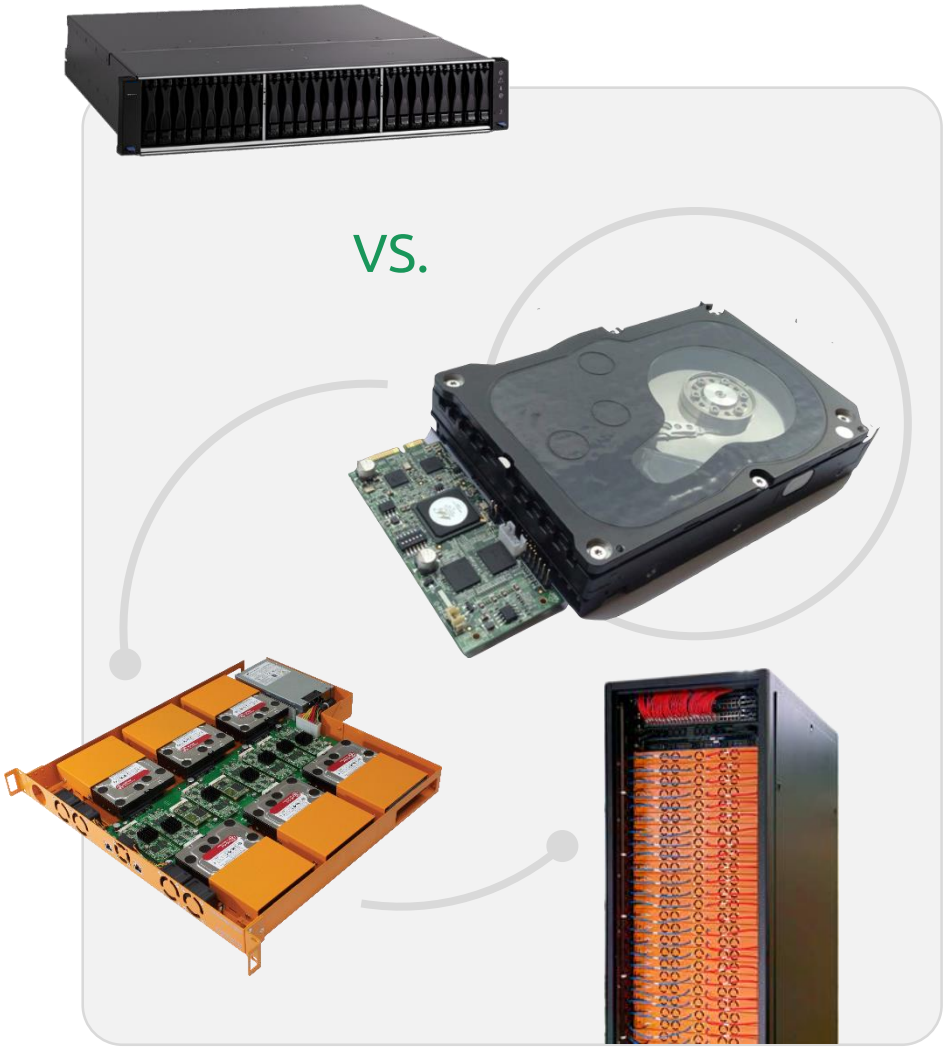


Scale Size, iPhone 6s

- The **First Complete** server based on **ARM® architecture**
- Directly **connected to the net**
- Specifically designed for **efficient data management**
- High **computational power**
- Low **energy consumption**
- Smart **space management**

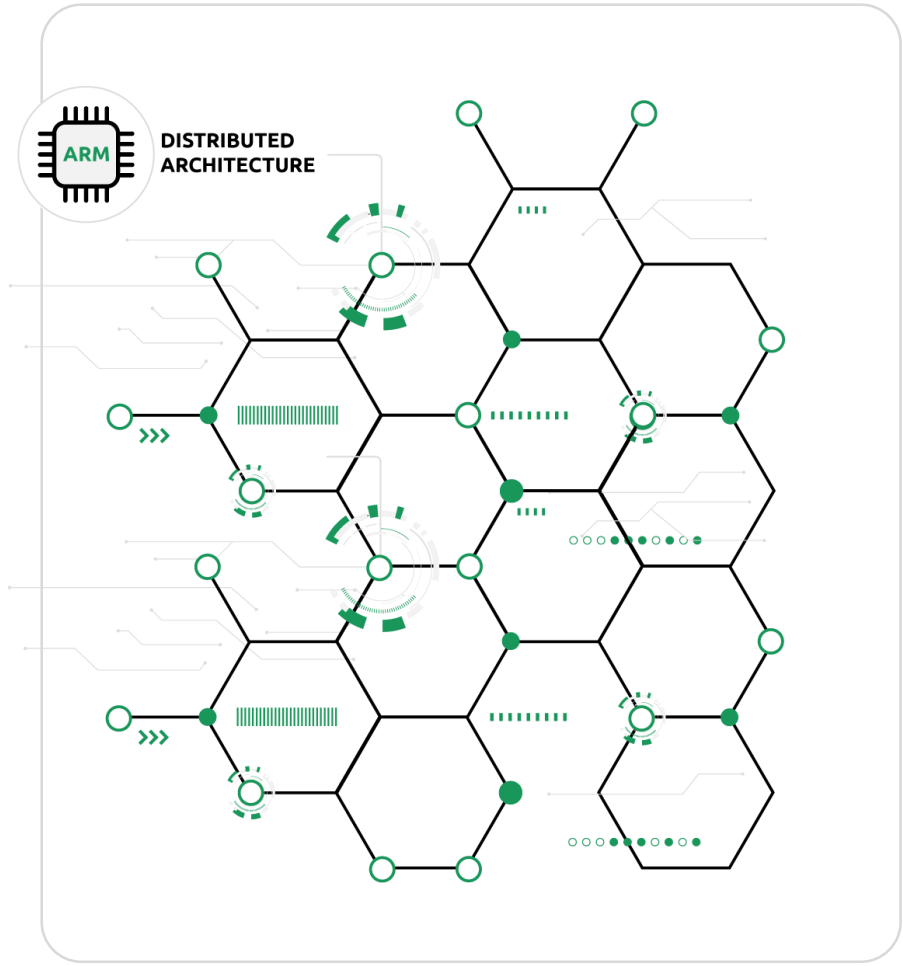
https://community.arm.com/groups/internet-of-things/blog/2014/05/14/cynny-arm-your-cloud and
www.bloomberg.com/bw/articles/2014-09-17/cynny-builds-a-tiny-server-that-could-mean-big-trouble-for-intel

The SwARM – Next generation storage solution



- **1:1 ratio** between server and storage unit
- Every microserver **manages one disk only**
- **Independent** from all the others, both physically and logically
- All servers are the same, no one **coordinates** the workload
- All directly **connected to the net**
- System designed **without** a **single point of failure**

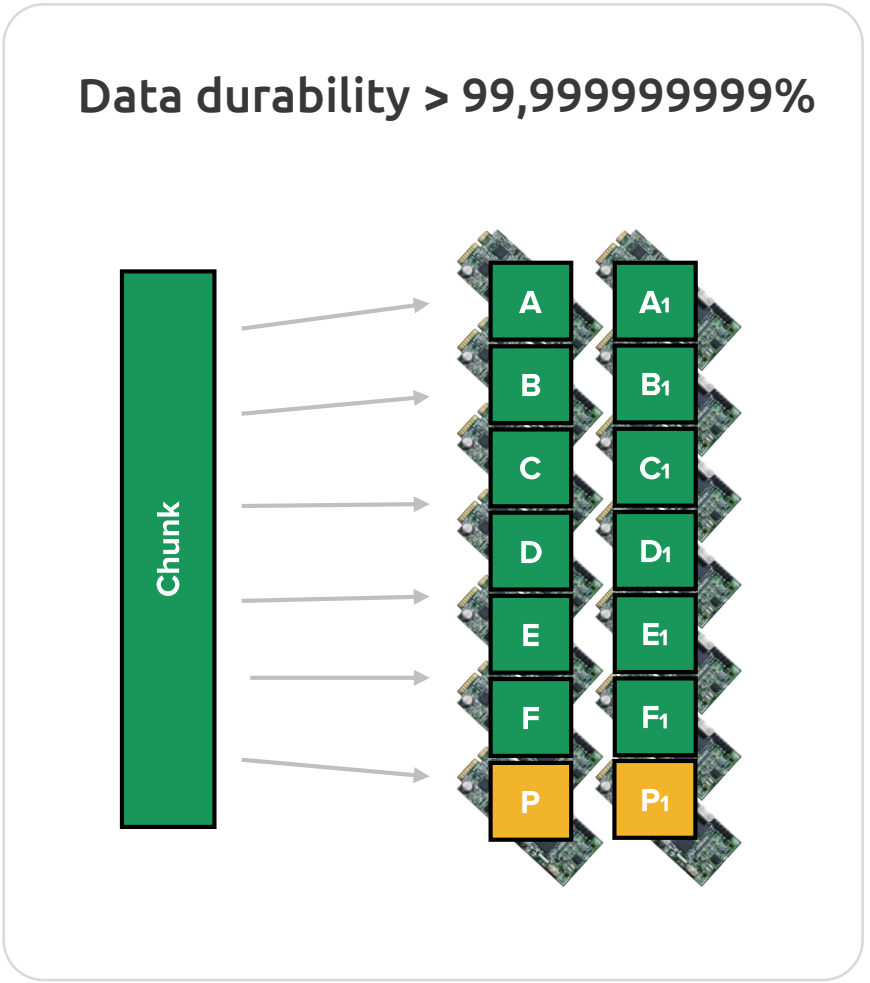
The SwARM – Next generation storage solution



- **First** File System based on **ARM® architecture**
- **Distributed intelligence** across all microservers, as in a swarm (peer-to-peer)
- **Infinitely scalable** without any human intervention
- Maintenance**: Zero Touch** and self-healing

4 US Patents: 152954-200101; 152954-200102; 152954-200103;152954-200201
2 EU Patents: 15836349.9, 15848329.7
2 Chinese Patents: 201580046118.0, 201580054817.X

The SwARM – Next generation storage solution

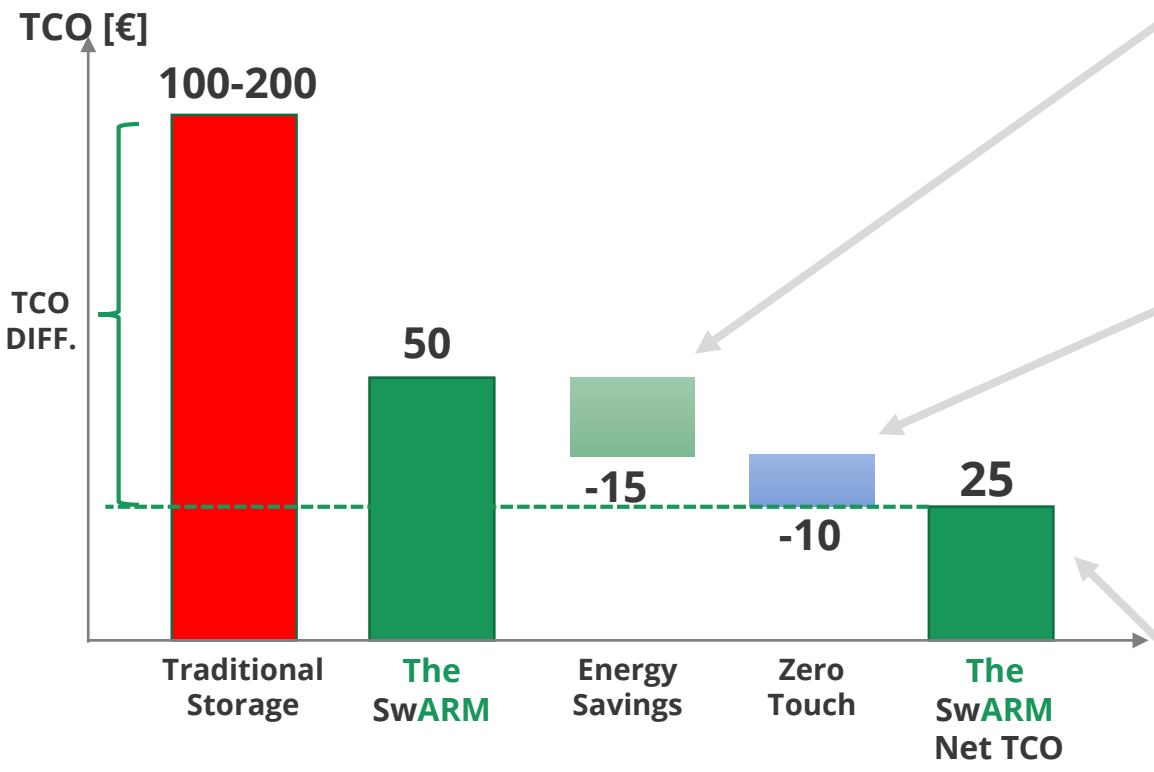


- **Durability and security** in data management
- Every part is stored on a **different storage node**
- **Higher reliability compared to traditional RAID systems**[1] thanks to the nodes working in parallel
- Intelligent file system **distributed across all nodes**
- **Proprietary technology**, both hardware and software

[1] *Source:* https://en.m.wikipedia.org/wiki/RAID#Unrecoverable_read_errors_during_rebuild

The SwARM – Business Benefits

The innovative approach reduces both purchasing and running costs



Key Operational Savings

Energy Savings:

- Power consumption
- Cooling Requirements
- CO_2 emission saving 75kg/TB/year

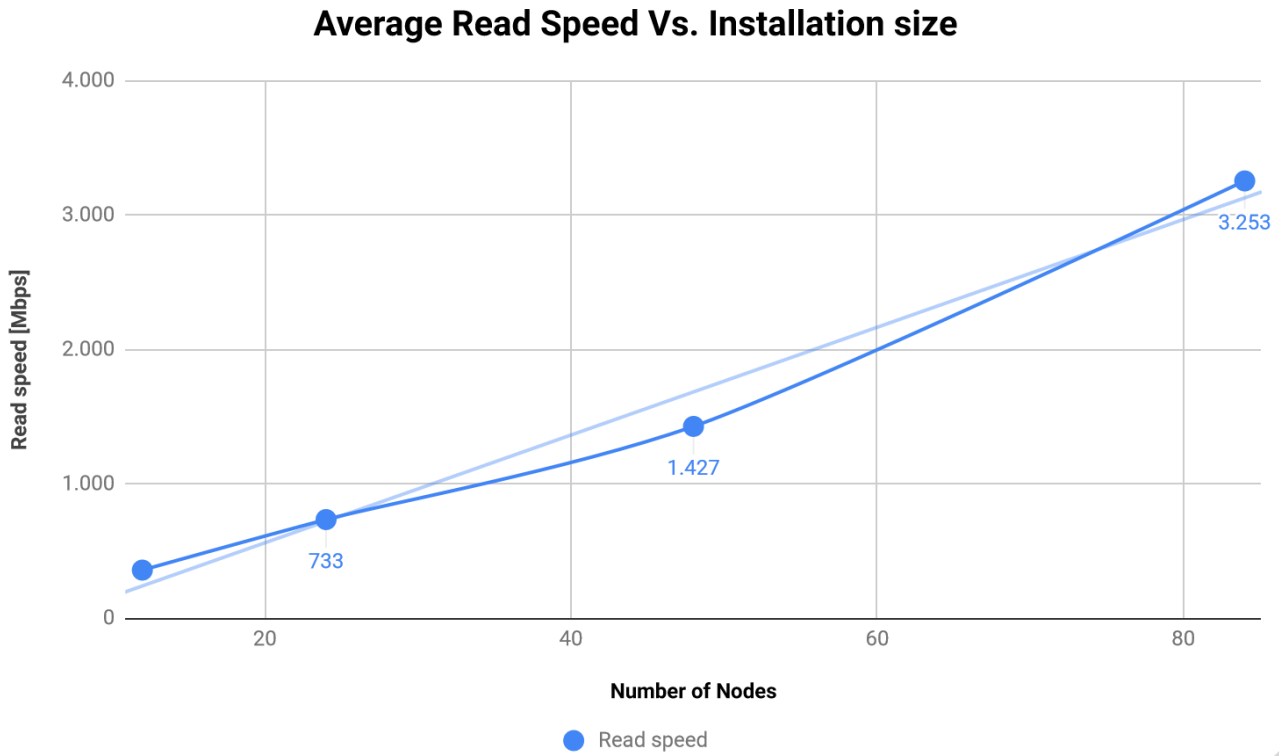
Operational Savings:

- Zero Maintenance – Free up resources
- Self-Healing/Orchestrated – No manual intervention for expansions

Net TCO: 4/5x Lower

The SwARM – Scalability

The SwARM grows linearly in terms of capacity, performance and costs



Key Points

- **Linear and infinite** scalability both in terms of costs and computational power.
- **Add Nodes to increase storage,** computational and bandwidth capacity

The SwARM - Key Use Cases

Backup

Virtual machine, DB, File server

veeam VERITAS rubrik COMMVAULT

Cloud App

Mobile Applications, Web & Server, Synchronization tools (Sync&Share), Portals

Nextcloud

Multimedia

Video Surveillance, Multimedia File Storage, audio and pictures, sharing and streaming

Archiving

Long term data storage and archiving, Data tiering

CloudBerry Lab Cloud Storage Tools

IoT & Big Data

Sensor's Log Management, Data acquisition and data lakes repository, direct integration with DB and analytics tools

elasticsearch

Disaster Recovery

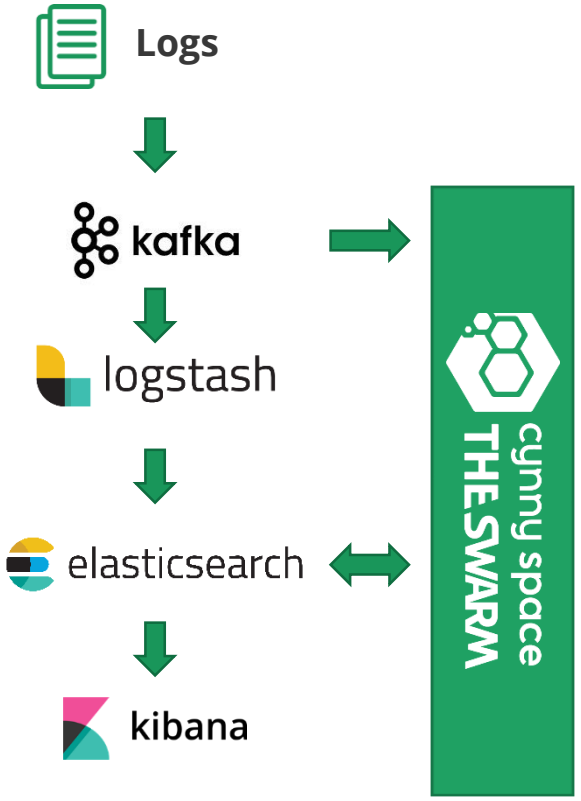
Multi-sites archive storage with geographical redundancy and synchronous/asynchronous alignment

The SwARM – IoT & Big Data Use Case

Problem

- **Machine generated a log files need to be stored** have been stored on a large-capacity NAS system, bogged down with data.
- The system was no longer effective, and the cost of upgrading the system was high and counterproductive to business.

Solution



Benefits

- **Consolidation and centralization**
- **Sustainable costs for project**
- Data **readily available** at maximum levels of detail
- Data security is guaranteed by the level of **durability** provided

IT Industry Challenges – The SwARM & Vegoia Synergy

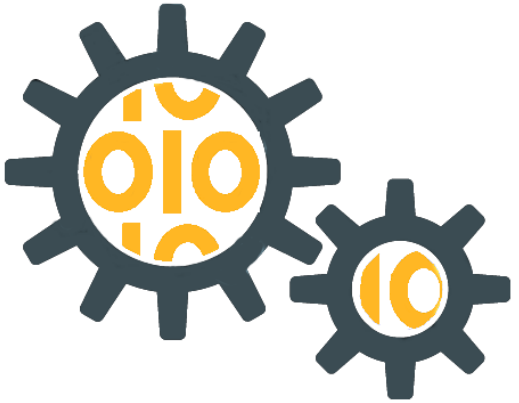
	Requires	Provides
Storage Service 	LARTHIA	cynny space THE SWARM
Cyber security 	cynny space THE SWARM	LARTHIA

Cloud Storage and Network Intelligence integration

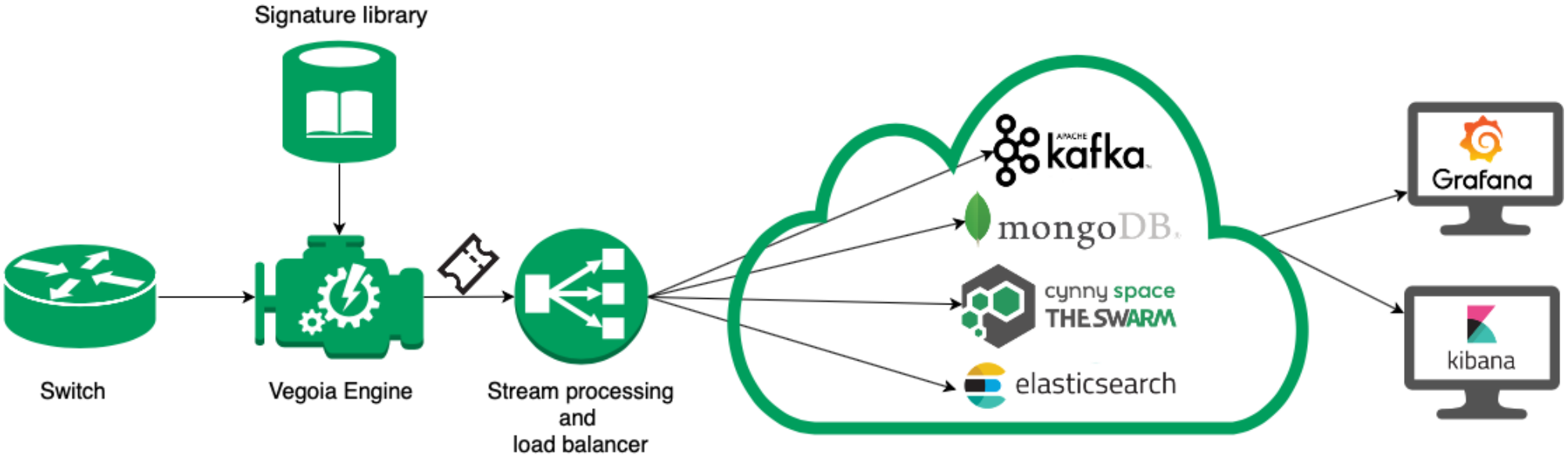
Vegoia is a scalable **Network Intelligence platform** designed for large scale networks

Vegoia takes advantage of **Deep Packet Inspection** (DPI) and **Application Recognition** (AR) engine.

Vegoia leverages **Machine Learning** algorithms to refine **real-time** reports, alarms and analytics

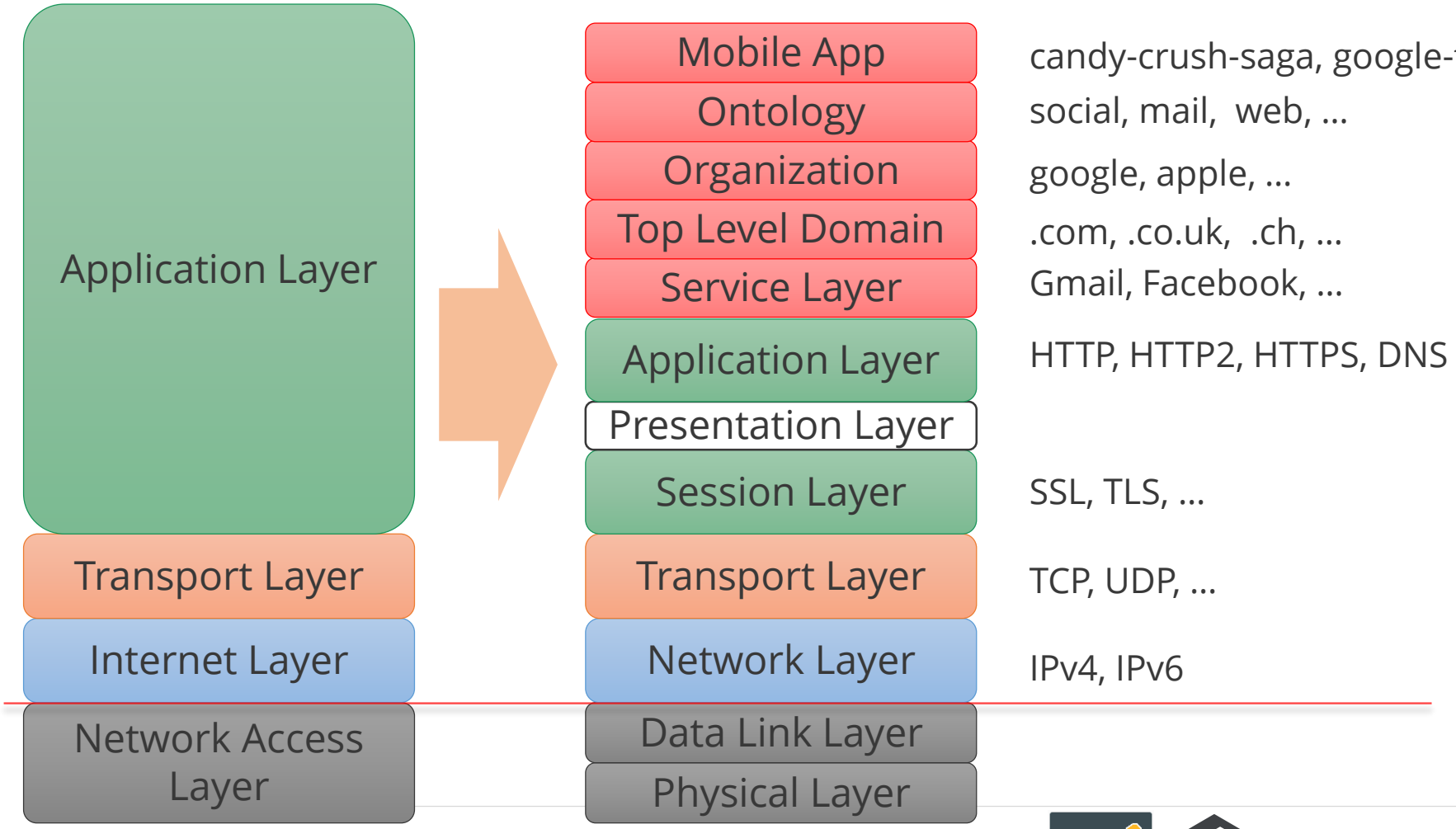


Vegoia Platform Architecture



Vegoia protocol model

TCP/IP model → Vegoia ISO/OSI model and beyond



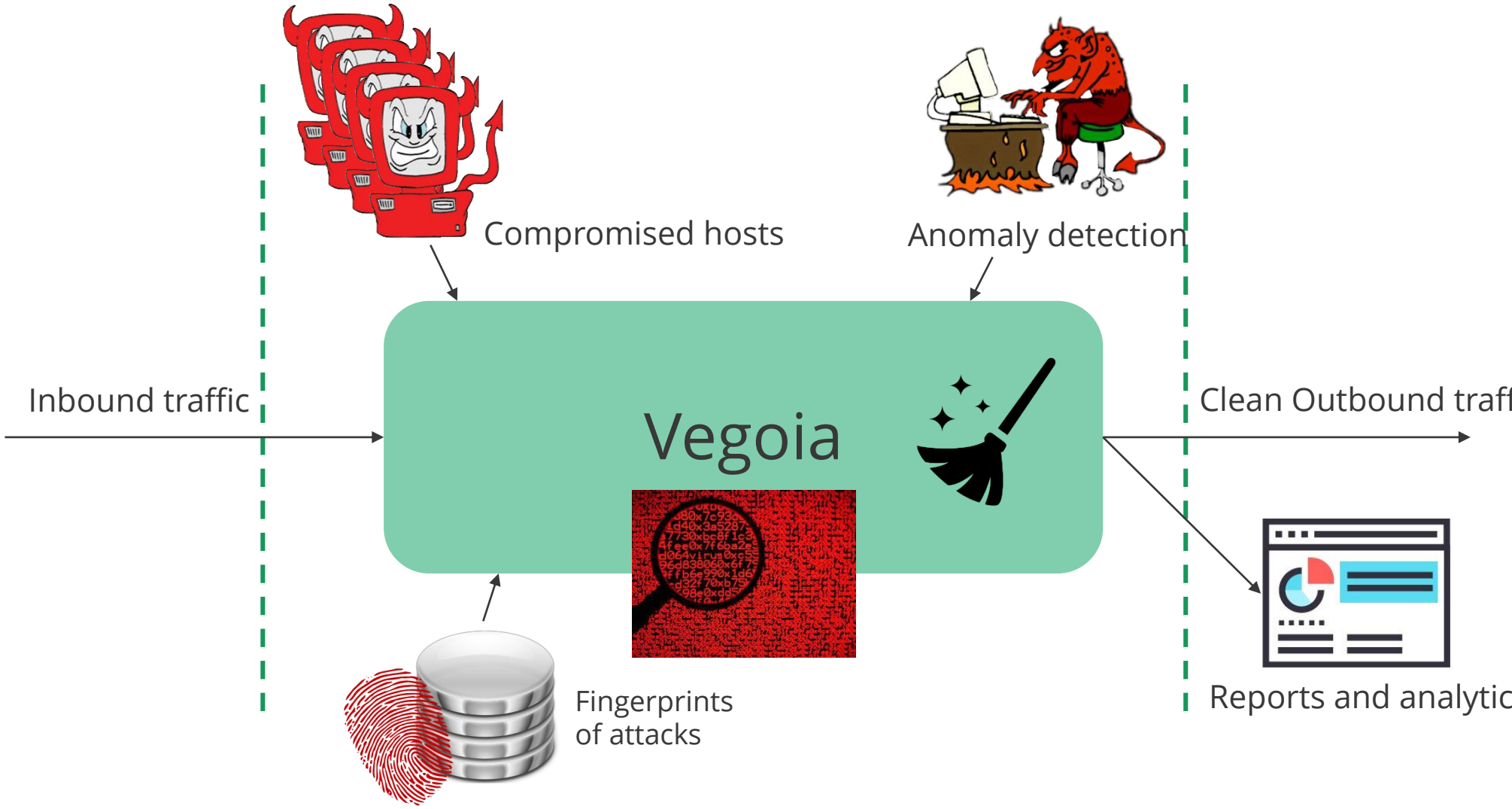
Vegoia is for...

- Protocol and Network anomalies
- Intrusion and Attack detection
- Traffic Control and Analysis

- Statistics
- Analytics
- Customer Profiling
- Billing Systems

- Troubleshooting
- Network Monitoring
- Traffic Shaping

Vegoia and Security



Analytics

- Customizable dashboards
- Real-time analytics

Vegoia features

- Classification speed **10÷40 Gbps** per probe.
- High accuracy in protocol and application recognition (**recall > 97%**).
- **>500** protocols detected by machine learning driven algorithms.
- **700** top mobile apps (continuously updated).
- **250** metrics and statistics with specific KPIs.
- **>2000** supervised rules for Internet services

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Thank You

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