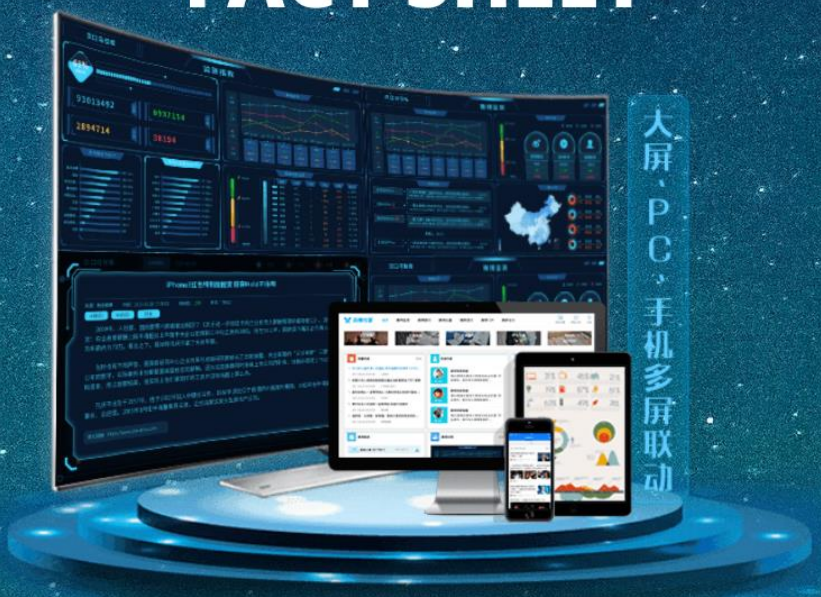
DIPL.ING.(FH)KLAUS ROCK

HTTP-QuSS

HTTP - QUANTUM SPEED AND SECURITY Ψ

February 14, 2022

FACT SHEET



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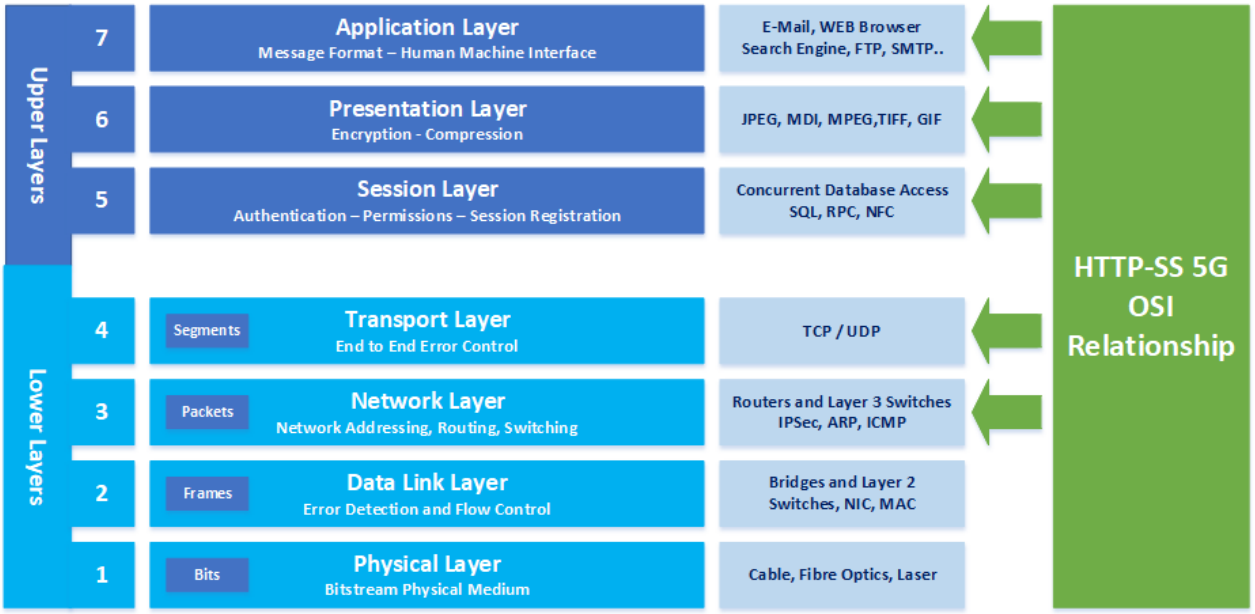
What is HTTP-QuSS

HTTP-QuSS is a **Cross-Layer Technology** which is not tied to a given Layer, but affects **Layer 3 - 7**. Some orthogonal Aspects, such as Management and Security, involve all of the Layers (See ITU-T X.800 Recommendation). The **HTTP-QuSS** Technology is aimed at improving the **CIA+S** Triad - **C**onfidentiality, **I**ntegrity, **A**vailability and addidional **high Speed** - of the transmitted Data. This Cross-Layer Technology is very important because the Availability of a Communication Service is determined by the interaction between Network Design and Network Transmission Protocols.

Appropriate Choices for both of these are needed to protect against all Kinds of **Cyber Attacks**.

HTTP-QuSS affects the following Layers:



HTTP-QuSS Architecture and related **AI Process Chains** consists of **H**igh-**P**erformance **C**omputing (**HPC**) **S**ervers or **Super Computers** and **lightweight** easy to install transparent **Clients** for all OS Platforms, Routers, Gateways and Modems.

- To open the Door for **Gbit/s Bandwidth** even within **high Latency Connections** the HTTP-QuSS Client Software can run in a parallel Hardware Client Environment (**SBC** or **SoC Semiconductor**) with many **GPU/CPU Cores** and demonstrating at the same Time a processing Energy Efficiency of a low **GFLOPS/Watt**.

- **HTTP-QuSS** supports in an ideal way upcoming **entangled QuBit Data Transmissions** in a **hybrid Network Environment**

- The **HTTP-QuSS Server** processes and transmits **URL/TCP Data Requests** from **WEB Browsers**, **Mobile Applications** and all other **TCP Clients securely** only with **1 Round Trip**

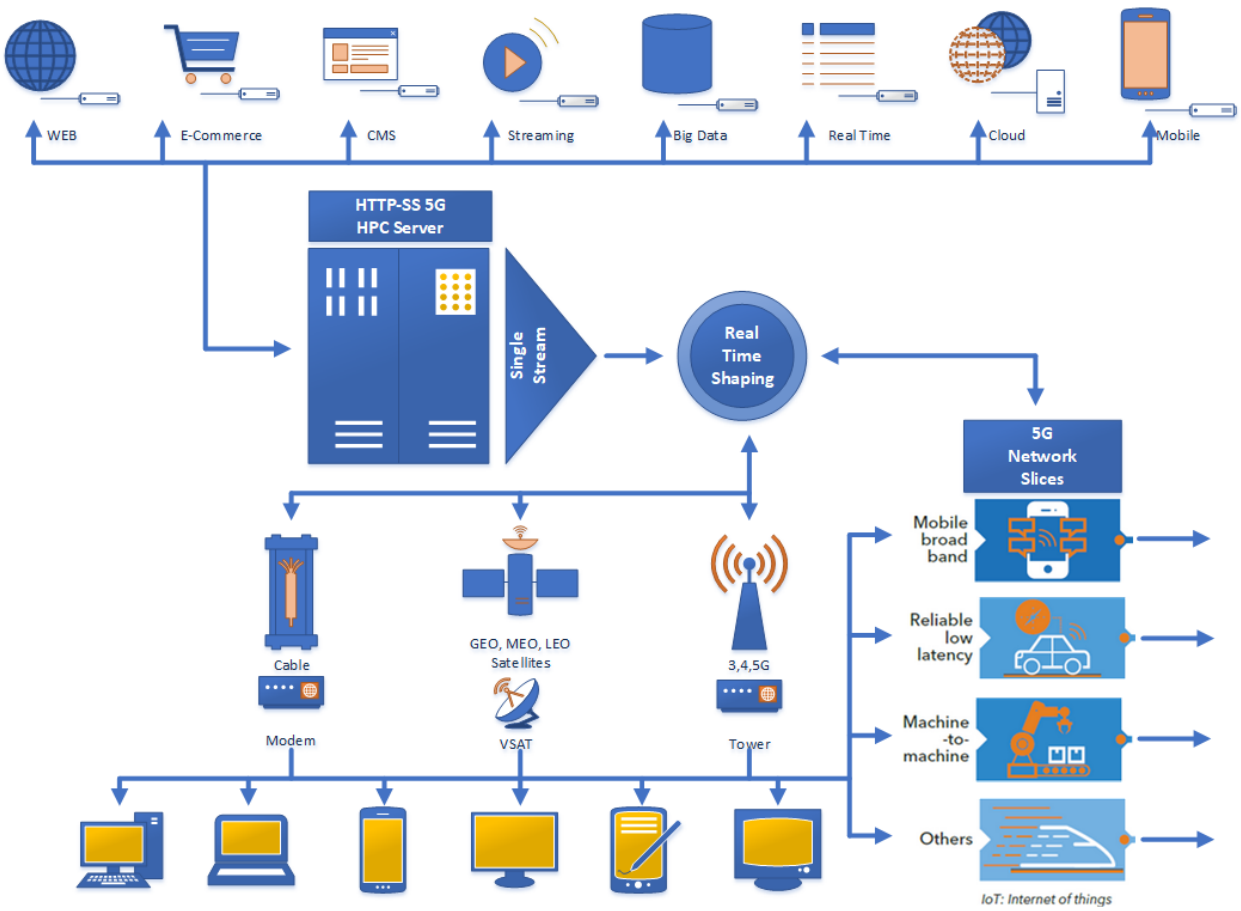
- All **Bandwidth** and **Performance destroying Protocol Handshakes** on short and long Distances are eliminated and at the same time a **secure Data Delivery** is guaranteed.

- **TCP Latency Issue** is **solved**.

  ✓ No Matter of **RTT = 10 ms or 1 000 ms** and above

- **Huge** Data Transmission **Saving** by **AI Basic Elements**

  ✓ **90 % less Data** for static and up to **50 %** for dynamic WEB Contents and up to **30 %** of any other TCP Data will be transmitted and therefor only a fractional of Bandwidth is needed to provide a similar performance as you would expect within a high Broadband Connection.



- **100 % reduntant free Smart Push** of all WEB Objects by using **AI** Basic and **new server-side Process Chains**.

- **100 % compatible** to all common **Internet Standards** like IPv6/TCP/TLS/http and all other encapsulated TCP using Protocols.

- **100 % secure** Hack proof Data Transmission by **keyless 2 Level symmetric Encryption**.

- **100 % transparent System Integration**

  - ✓ **No upgrade** of Servers and End User Devices
  - ✓ **No upgrade** of active Network Elements
  - ✓ **Automatic** HTTP-QuSS **Routing** by **Proxy Auto-Configuration** (*PAC*) **Java Scripts** and the **Web Proxy Auto-Discovery Protocol (***WPAD)* **Technology**

- **100 % Availability** through **Smart Fallback** to **State of the Art** Feature

- **Insensitive** against longer **Connection Interruptions**

- **Dynamic Realtime Bandwidth Shaping** through **own Linux Kernel**

  - ✓ **Floating** Bandwidth Assignment
  - ✓ **Fixed** Bandwidth Assignment
  - ✓ **Max available** Bandwidth Assignment
  - ✓ **Smart Ceiling** Bandwidth Assignement
  - ✓ **Fully Latency free** by using hashing Feature for direct Rule Addressing

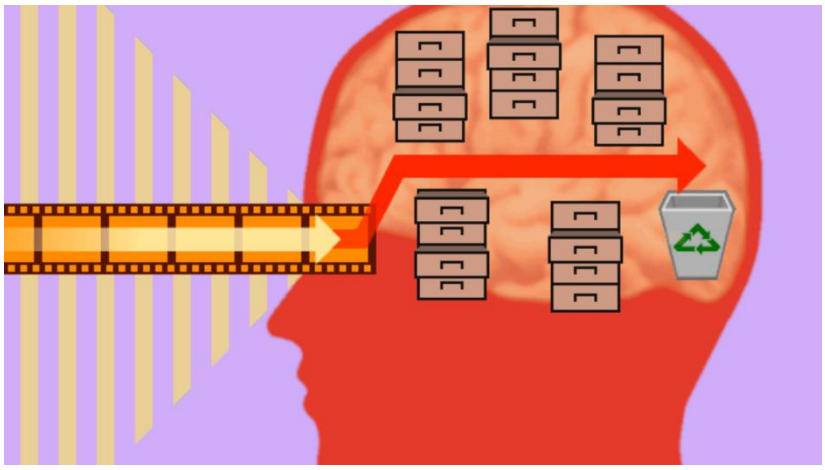
- Integrated **Network Slicing** Feature to support the new Generation of **5G Mobile Networks** for:

  - ✓ **eMBB** - Enhanced mobile Broadband Access in Dense Areas
  - ✓ **s-VCC** - Small-Volume, critical Communications
  - ✓ **h-VCC** - High-Volume, critical Communications
  - ✓ **eRTC** - Extreme real-time Communications
  - ✓ **mIoT** - Massive Internet of Things

What is not HTTP-QuSS

- **No outdated Methods** on **OSI Transport Layer 4** used to achieve these results like:

  - ✓ **No TCP Spoofing**
  - ✓ **No P**erformance **E**nhancing **P**roxies (*PEPs*)
  - ✓ **No** Enhanced **TCP Send** and **Receive Buffer** Techniques
  - ✓ **No** Kinds of **Network Accelerators**
  - ✓ **No Caching** and **Compression** Features
  - ✓ **No HTTP Header Compression**
  - ✓ **No** Hardware intensive **Bit Caching Systems**
  - ✓ **No** new **TCP by UDP**
  - ✓ **No** addidional **RFC TCP Suggestions for Improvements**



- **HTTP-QuSS does not implement** an **own non Standard Protocol**

  - ✓ Moreover a **new Payload Structure** is used to follow the multiplexed Single Stream Data Transmission Requirements and all server- and client side Processes follow strictly all used Internet Standard Protocols

- **HTTP-QuSS is not** somekind of a **Proxy Caching Server**

  - ✓ Although Elements of a Forward Caching Proxies will be used, they do not play a crucial role in achieving these Results.