TOFFEE-DataCenter is an open-source WAN Optimization (Network Optimization) platform which can be used to optimize your critical networks such as:
> Aerospace Communications (In-flight Wifi networks) and Satellite Networks
> Defense (Military) Communications
> Marine Internet
> Big Data Analytics
> Teleradiology Networks and other Medical communication applications
> Mobile Networks - 3G/4G Networks
> Optimized Mobile Wireless Backhaul Networks
> VoIP Networks
> Software Defined Networks (SDN) and SD-WAN
> B.A.T.M.A.N. Wireless Mesh-Networks/Radios - Mobile ad hoc networks (MANETs)
> LoRaWAN Networks
> Deep Space Networks (DSN)
> Internet of Things (IoT) Platform
> Content Delivery Networks or Content Distribution Networks (CDN)
Some deployment scenarios ...
Increase your LoRaWAN bandwidth
Satellite Networks

Ground Station

Satellites in Space

Satellite Network

WAN Optimized Tunnel

TOFFEE Device(s) at each Customer Premises

Customer

Customer

Customer

Customer

Internet
Large Infrastructure and or ISP Networks

ISP

WAN

WAN Optimized Tunnel

TOFFEE Device(s) at each Customer Premises

Customer

Customer

Customer

Customer
VPN Traffic Optimization

TOFFEE Device at Site-A

WAN Optimized and Encrypted Tunnel

TOFFEE Device at Site-B
Wireless Mesh Networks

Wireless Mesh Network (Backbone)

WAN Optimized Tunnel

Internet

Customer

Customer

Customer

Customer

Mobile and Fixed Hosts
SD-WAN Infrastructure

Branch Office

SD-WAN Service Provider

Third-Party SD-WAN Vendor(s)

Corporate Headquarters

SD-WAN Infrastructure (Backbone)

Optimized SD-WAN Infrastructure
Scalable and modular (load-sharing/load-balancing architecture)
Distributed Storage Cluster Infrastructure (such as CEPH/Gluster ... )
... and in the future long-distance space communication:

> Long distance IPN (InterPlanet Networks) and other Deep Space Networks (DSN) infrastructure

Challenges are :: for example:

**NASA’s New Horizons space probe:**

> Jupiter flyby Feb-2007, communication rate of 38 kbit/s at Jupiter
  - vs -
> Pluto flyby Feb-2016, communication rate of 1-2 kbit/s at Pluto

... and so:

TOFFEE (TOFFEE-DataCenter) is specifically architected to address such unique cases where the network communication is simply limited by underlying physics!

Especially such as:

> In-flight WiFi
> Marine Internet
> on-site/war-zone Defense Networks
> Interplanetary Internet and Deep Space Networks
  - a challenging milestone to accomplish even before we think about terraforming and colonizing other planets!
Advantages of **TOFFEE-DataCenter**:

- unlimited TCP sessions
- optimizes TCP, UDP, ICMP and SCTP
- optimizes TCP-Header, UDP-Header *(IP Header is untouched for seamless end-to-end packet routing)*
- make existing VPNs perform faster: TOFFEE prevents VPN packet fragmentation which occur commonly due to extra headers and encryption *(exceeding MTU)*
- supports IPv4 and IPv6
- lossless packet compression
- packet de-duplication
- packet packaging/multiplexing
- application specific optimization: HTTP, SSL, FTP, Skype, Google-Hangouts, DNS, VNC, TeamViewer, MySQL, CIFS, SIP, RTP/RTCP, SMTP, POP, etc
- stateless packet processing
- extended to support hardware packet processing as well hardware based loss-less compression *(acceleration cards)*
- optimizes live streaming data (such as VoIP, Podcasts, Radio, Live TV), which cannot be optimized via any existing file caching solutions
... and so:

TOFFEE (TOFFEE-DataCenter) is not about optimizing just TCP/UDP data or IPv4/v6 networks, it can work on almost ALL layers (i.e. L3, L4 and Application even L2 if required) to address this big-picture!
endless possibilities with million opportunities
... what is your Highest Possibility?
Thank you!