



# Carrier Grade Caching Solution

## TRANSPARENT CACHING FOR ISPS

HIGH PERFORMANCE  
MULTI GIGABIT  
FULLY TRANSPARENT

## BANDWIDTH SAVINGS

Highest bandwidth savings (BHR – Byte Hit Ratio) and bandwidth gain on the market. Supporting the most different content classes and including special optimizations for all popular services and sites.

## BROWSING ACCELERATION

Small objects cached and served from ultra high performance Solid State Disks (SSDs). Subscriber satisfaction improved because Internet browsing accelerated.

## CDN CACHING

Unique caching mechanism, highly accurate for arbitrary caching of videos and large rich media files from Content Delivery Networks (CDNs).

## COST EFFECTIVE

Reduce costs, increase number of subscribers and avoid costly bandwidth upgrades at value-added prices.



## Single Node Cluster XL

- ✓ 4 Gbps Throughput
- ✓ 2.2 Gbps HTTP to clients
- ✓ 2 Gbps from Disks
- ✓ 48 TB HDD Storage
- ✓ 2 TB or 4 TB SSD Storage
- ✓ 256 ECC Memory
- ✓ Broadband and Mobile Edition

### Appliance Features

- HTTP and FTP support
- On-device network test tools
- Peer-to-Peer (P2P) / BitTorrent caching
- Encrypted P2P connections
- IPv6 support / IPv6 ready
- High-Availability and redundancy
- Proprietary caching technology
- Video-On-Demand caching (Netflix,...)
- Partial object caching (HTTP range requests,...)
- Content Delivery Networks (Akamai, EdgeSuite,...)
  - ✓ De-duplicates content that comes from different CDN hosts
- Static & Dynamic web content:
  - ✓ Antivirus and software updates
  - ✓ Filehoster/Sharehoster/One-Click-Hoster
  - ✓ Games (EA, Playstation, Steam, Xbox,...)
  - ✓ OS updates (Apple, Linux, Microsoft,...)
  - ✓ Videohoster (GoogleVideo, Youtube,...)
- HTTP-based live streaming:
  - ✓ HTTP Live Streaming (HLS)
  - ✓ HTTP Dynamic Streaming (HDS)
  - ✓ HTTP Smooth Streaming (HSS)

### Operating System & Platform

- Optimized 64 bit Linux Kernel
- Unified cache cluster management
- Dedicated video caching platform
- Multiple terabytes of storage capacity
- Ultra high performance SSDs for low-latency
- Drive monitoring and management
- Automatic Fail-Over function
- Small and large object file caching
- Disk hot-swap support

### Flexible Deployment

- Transparent | Non-Transparent
- Reverse proxy
- HTTP proxy logging facilities
- Comprehensive access control rules
- Dynamic ISP content filtering
- Advanced cache hierarchies
- Bridge Mode | Dynamic routing OSPF
- WCCP Layer 2
- Policy Based Routing (PBR)
- L4 / L7 load balancers
  - ✓ A10 | Foundry Networks
  - ✓ Brocade | F5 Networks
  - ✓ MARA Systems TmcMARA load balancer
- Multiple router connectivity
- 1 Gbps / 10 Gbps interfaces
- Central cluster monitoring and reporting
- Scalable cache cluster with shared storage

### Management & Reporting

- Innovative and intuitive Web GUI (Multilingual)
- Command line interface via serial console & ssh
- Appliance status and live monitoring
- Daily, weekly or monthly executive reports (PDF)
- Real-time and historical statistics by day, week, month, year, ...:
  - ✓ System resources, network traffic, HTTP caching performance,...
- Comprehensive HTTP usage reports:
  - ✓ Top 1000 Sites, Top 1000 Users
- Simple backup and restore capability
- Remote logging servers support (remote syslog)
- Embedded stateful firewall
- SNMP support with configurable alerts



# Carrier Grade Caching Solution

## CARRIER GRADE HARDWARE

MARA Systems only provides latest hardware generation and IT findings to deliver the most secure and robust transparent caching solution on the market.

## EASY CLUSTERING

Multiple CacheMARA appliances can easily be clustered to implement larger scenarios even up to multiple 100 Gbps of bandwidth. CacheMARAs in the cluster share available storage so that total caching capacity is increased with every CacheMARA added to the cluster.

## RELIABLE PLATFORM

Exceptionally optimized and hardened Linux platform, tailored for high availability, security and performance needs. Systems booting from read-only, compressed image. Purpose-built hardware.

## PROVEN SOLUTION

CacheMARA is a safe buy with more than 900 installations worldwide.

## SERVICES / SUPPORT

- Dedicated technical support
- Expert consulting
- Installation & configuration
- Ongoing maintenance
- Firmware upgrades
- Hardware warranty
- Product manuals & FAQs

## Product & Technical Specifications

Q2 2017 Models	Cluster XL 4000 - Broadband Edition	Cluster XL 4000 - Mobile Edition
Generated from disks all services Mbps	2000	2000
Total Mbps HTTP to clients	2200	2200
Total Mbps all services	4000	4000
Max concurrent connections	2.5 Million	2.5 Million
ECC memory	256 GB	256 GB
SSD cache size	1920 GB	3840 GB
HDD cache size	48 TB	48 TB
PSU redundancy	yes	yes
Form factor	4U	4U
Typical power consumption	500W	530W

## Large Deployment Example

The following example shows a large deployment using multiple TmcMARAs to load balance traffic to a cluster of transparent CacheMARA Cluster XL caching nodes.

