EXPAND networks | VIRTUALLY EVERYWHERE™

SOLUTION SHEET

MOBILE ACCELERATOR CLIENT (MACC)
With Unique HIVE Technology

Key Features

- First WAN Optimization Client with unique HIVE technology:
  - Intelligent location detection
  - Distributed "Virtual Cache"
  - Adaptive application visibility & QoS
- Intelligent location detection for automatic optimal performance regardless of roaming current location
- Distributed virtual cache for the small remote office (collective branch).
- Powerful application acceleration, application QoS, visibility & control for meshed topologies, real-time applications (VoIP, video), peer to peer and client/server applications.
- Zero touch install and configuration.
- Centralised management system for all Expand accelerators including mACC.

Benefits

- Provides increased flexibility and mobility as users can move around & the client will provide full WAN Optimization capabilities Virtually Everywhere™.
- Provides a distributed Virtual Cache for the small branch office (collective branch) avoiding the procurement dilemma of appliance vs multiple clients and IT footprint issues.
- Provides enhanced application performance over the WAN and unique client-client QoS capability
- Provides reduced TCO through reduced operational and capital expenditure

DISTRIBUTED ENTERPRISE CHALLENGES

The need for increased efficiency is driving organizations everywhere to implement consolidation strategies using server based computing, virtualization and VDI. At the same time, increased mobility and collaboration has become a critical enabler to breaking down traditional organizational boundaries to improve decision making, customer responsiveness and business productivity. These strategies are having a major impact on the way WANs are being used.

Firstly, the distance between the user and the application is growing with increased numbers of home workers, mobile worker s and smaller remote offices. In addition, flexible work patterns also mean that remote offices have fewer concurrent users than previously. Secondly, the traffic flows across the WANs are changing with increased use of video, VoIP, server consolidation and virtualization deployments. Such changes can have unpredictable and unnecessary impact on end user productivity and IT efficiency if technology is not provided to increase visibility and improve application performance across the WAN.

MEETING USER EXPECTATIONS

Now more than ever, competitive differentiation is key to business success. Expand Network's MACC makes consolidation, collaboration and mobility work in tandem to deliver increased business efficiency. Expand delivers innovative WAN optimization and application acceleration solutions to improve the performance of critical business applications and real-time meshed applications. Expand solutions ensure that your remote users will be provided with as close to possible the same application experience virtally everywhere.

MACC WITH HIVE TECHNOLOGY

The technology which provides the MACC with its unique capabilities is named HIVE (Heterogeneous Intelligent Virtual Environment) technology: -

- **Heterogeneous**: Many different types of users working from (and moving between) different locations each with different WAN connectivity.
- **Intelligent**: Dynamic & adaptive operation based on locations and user type - Adaptive application visibility & QoS.
- **Virtual**: Multiple users using one distributed "Virtual cache" for enhanced client performance.

- **Environment**: Seamlessly adapts to users environment using 'Intelligent Location Detection – home worker, mobile worker, the small office(collective branch) and large office/HQ.

INTELLIGENT LOCATION DETECTION

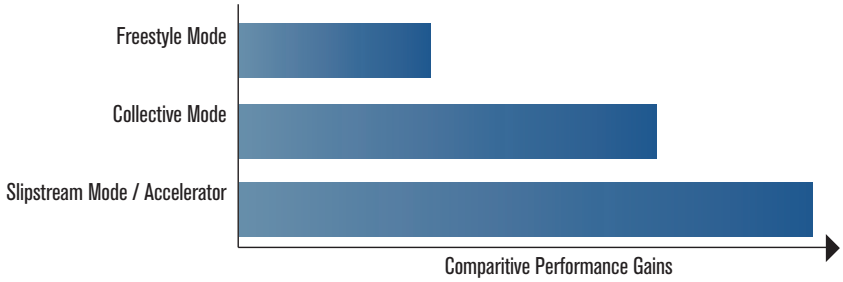
The MACC supports three modes of operation, which introduces new levels of flexibility. This is achieved through Intelligent Location Detection whereby MACC software intelligently understands its location and dynamically configures itself to the appropriate mode. The MACC will automatic detect the remote bandwidth available and automatically discover its peers if working in a small office. It will then automatically allocate QoS policies based on available bandwidth and provide comprehensive WAN optimization and application acceleration benefits wherever they are.

DISTRIBUTED VIRTUAL CACHE

When used in a small office environment the MACC works collectively with other MACCs to form a shared distributed "Virtual Cache", eliminating the need for either a physical or a virtual appliance at that location. MACC automatically discovers its peers in the same location and will intelligent use the distributed virtual cache for WAN optimization and acceleration. As a result, IT departments are able easily plan and budget for small remote locations, as they are no longer faced with the dilemma of whether to provide an appliance or use clients. The User will now gain similar experience in the small branch office with the Virtual Cache as he would with an applicance, but also will gain optimization benefits when he leaves the office and becomes an individual user.

MODES OF OPERATION

The MACC supports a wide variety of user working patterns to support the home worker, the occasional home worker, the road warrior or the small offices. Users are able to move locations and the MACC will automatically optimize and accelerate application performance wherever they are. In collective mode users will experience similar performance gains to those remote users in a large branch with a physical or a virtual appliance.



COLLECTIVE MODE

This mode supports users who work in a small remote office or who may occasionally visit or work from such locations. When the user logs-in to the small remote branch, the MACC will auto-identify its peers in the branch and will form a collective distributed "virtual Cache", providing similar WAN optimization and application acceleration benefits to those locations with a physical or virtual appliance.

The collective mode supports monitoring and sharing of the WAN bandwidth at that location and prioritizes business applications in a shared fashion. This includes:-

- Collective WAN optimization and application acceleration: Remote site members share TCP & UDP traffic application acceleration, compression and byte level caching.
- Shared object cache: To update data & applications, clients check the local virtual shared cache for recent updates, sharing objects between the collective members such as Web object, SBC and VDI bitmaps, and object deltas.
- Adaptive application visibility & QoS: Provides automatic application discovery and implements application QoS through a powerful QoS engine for both remote user-to-datacenter and remote user-to-remote user (peer-to-peer) applications.
- Supports application accelerator plug-ins (such as SBC and VDI).

At the datacenter, all MACCs operating in collective mode at a small remote office are managed by ExpandView as a single logical entity. In addition, collective mode is able to be switched off for certain users, which maybe for reasons of security or confidential data.

MOBILE COLLECTIVE ACCELERATOR

FREESTYLE MODE

This mode supports the remote user when working form home or on the road. In this mode the MACC acts as an individual client and automatically detects remote bandwidth available to it at the remote location.

When the user connects, the MACC will automatically and transparently download the configuration definition that fits its location and IT policies. The MACC will then automatically allocate QoS policies based on available bandwidth at the location. The Freestyle mode supports:-

- Byte & object level caching and compression.
- TCP & UDP traffic application acceleration.
- Full range of application accelerator plug-ins, such as SBC and VDI applications.
- Fully interoperates with VPNs and firewalls transparently.
- Provides automatic application discovery and implements application QoS through a powerful QoS engine for both remote user-to-datacenter and remote user-to-remote user (peer-to-peer) applications

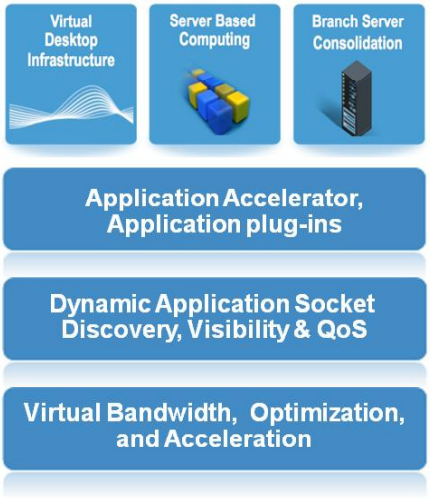
SLIPSTREAM MODE

This mode supports the remote user who has called in to work in head office, regional office or large branch, which has an Expand accelerator installed (either physical of virtual appliance).

In this mode the MACC automatically detects there is an appliance and lets the appliance carry out all the WAN optimization and application acceleration functions.

APPLICATION VISIBILITY AND CONTROL

The MACC provides a new dimension of application control through adaptive application visibility and QoS. The MACC uses automatic application discovery and implements application QoS through a powerful QoS engine, as well as through application acceleration plug-ins for specific application types and protocols. Through these techniques, traffic can be identified with their applications and appropriate priorities allocated. Even encrypted and unclassified traffic can be associated to specific applications. Expand's technology identifies over 400 applications automatically and applies specific optimization and acceleration to speed their delivery over the WAN. The result enables more user sessions per remote location as well as speeding up response times. This capability includes, but is not limited to:-



- Web 2.0, IM and dynamic HTTP applications
- VoIP and Video
- VDI, ICA, RDP, ALP traffic for server based computing and VDI

CLIENT TO CLIENT APPLICATION QOS

IT managers need to monitor and control traffic flows directly between user desktops and laptops at remote locations to ensure quality of service for interactive office to office and remote user to user applications. MACC provides adaptive application visibility & QoS to manage all connected PCs in peer to peer application relationships. As such the MACC is able to identify remote user to user applications and provide optimization according to IT policies and the available bandwidth. For instance VoIP optimization to enhance the quality for IP calls.

MOBILE COLLECTIVE ACCELERATOR

REDUCED TOTAL COST OF OWNERSHIP

The capabilities of the MACC have been designed to reduce the cost of ownership for remote user deployments for both CAPEX and OPEX. A concurrent user licensing model for organization wide solution, integrated management and reporting, and the collective operation in small offices makes it easier to plan and budget. Whilst centralised management with zero touch configuration of laptops and desktops at remote sites, optimizes the use of IT resources.

MACC - ZERO TOUCH CONFIGURATION AND EASE OF INSTALL

The MACC is a Windows based software client that can be easy downloaded centrally via the ExpandView platform or an MSI utility. Management and IT policies are managed centrally on ExpandView with automatic configuration on the user's desktop or laptop at connection time, according to their location, user ID and available bandwidth. This capability provides organizations with operational savings for MACC deployments with first time connect download and adaptive configuration.

CENTRALIZED MULTI-SERVICES INTEGRATED MANAGEMENT

ExpandView supports the complete AceleratorOS and Accelerator family (physical, virtual and MACC) without the need for additional management hardware or software. Centralized management and detailed reporting deliver unsurpassed control over Wide Area Network resources and traffic.

EXPAND NETWORKS - COMPREHENSIVE SOLUTIONS FOR WAN OPTIMIZATION

ADAPTIVE APPLICATION QUALITY OF SERVICE (QoS): Control of network bandwidth, filtering, shaping and marking

- Automatic application discovery
- Both inbound and outbound traffic
- Packet fragmentation (assures VoIP/video latency budget)
- End-to-end application performance monitoring
- Transparent to existing QoS infrastructure
- Client to client capability
- Priority treatment for critical applications
- Guarantee bandwidth for business sensitive applications
- Restrict rogue and greedy applications
- Seamless integration with compression and byte level caching
- Integration with MPLS network (collective mode)

ACCELERATION: Powerful acceleration solutions for both protocols and applications

- Server based computing acceleration (ICA, RDP, ALP)
- VDI acceleration (ICA, RDP, ALP)
- All TCP & UDP application acceleration
- Faster file transfers
- HTTP & FTP acceleration
- DNS acceleration
- TCP optimization
- CIFS acceleration

VISIBILITY & MANAGEMENT: Comprehensive monitoring and graphical reporting

- Centralized management through ExpandView
- Automatic traffic discovery
- Historical and real-time reports for applications and links (throughput, performance, acceleration)
- Secure management with HTTPS, SSH, SNMP
- Integrates with existing user authentication and administration systems (RADIUS and • TACACS+)
- First time connect download via ExpandView or Accelerator MSI deployment options
- Intelligent location detection

COMPRESSION & CACHING: Compression algorithms that are dynamic and self learning

- Byte-level caching
- Packet header reduction
- Dynamic bandwidth adjustment
- Adaptive packet compression
- Distributed virtual cache (collective mode)

SECURITY: Robust security and data protection for enterprises

- IPSec (AES-128, AES-192, AES-256 or 3DES algorithms)
- Authentication, authorization, and accounting (AAA)

Laptop and desktop requirements for mACC

- Windows XP SP2, Vista SP1, Windows 7
- Hard Drive: 256MB and higher
- CPU: Celeron 600Mhz and higher
- RAM: 512MB and higher

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