

## Solutions for Bandwidth Optimisation, Bonding and Networking

ViBE is a VPN technology that delivers **bandwidth enhancement**, designed to **optimise** the **performance** and **quality** of **internet and WAN** connections.

ViBE delivers a comprehensive range of **networking functions** and is a **key enabling technology** for the **effective delivery** of voice and data services'

**The concept of convergence is great** – the ability to combine voice and data traffic across a common IP infrastructure can bring many benefits including reduced connectivity costs and the integration of VoIP (voice over IP) with your existing data infrastructure. VoIP allows you to replace PSTN lines, expensive E1 circuits and outdated analogue PBX systems and run voice connectivity across a common network infrastructure.

**The management of voice across IP** however, presents a number of challenges. Low bandwidth links can very quickly become saturated with voice and data traffic which, in turn, will cause major quality issues and in many instances dropped calls. In addition IP is not a particularly efficient transmission protocol for voice and many codec's will consume high levels of upstream bandwidth when only a small number of calls are in progress. These issues have led many organisations and service providers to be wary of large scale deployments of VoIP without major bandwidth upgrades and with some form of service level guarantee. Designing a network with enough bandwidth to cater for all your VoIP calls can be expensive and very difficult to plan. Deploying a converged voice and data solution will compound these issues further.

**ViBE is able to overcome these challenges** by providing VPN technologies that offer unparalleled management and resiliency for voice and data whilst providing full voice priority (QoS) over data traffic. Furthermore ViBE will enable the bonding of multiple links to boost upstream bandwidth delivery across any connectivity type.

BY STRIPPING AWAY  
PROTOCOL OVERHEAD AND  
RETAINING ONLY ACTUAL  
VOICE DATA. ViBE CAN  
SEND AN UNPRECEDENTED  
NUMBER OF VOIP CALLS  
ACROSS AN IP-BASED  
NETWORK.



\*A link (UDP) performance test should be carried out before installing ViBE.

ViBE can be deployed across all major connectivity types such as LTE, Fibre, WiMAX, Satellite and even asynchronous links like ADSL\*. ViBE delivers a secure, encrypted VPN tunnel ensuring that all voice and data elements are managed effectively and securely.

ViBE also encompasses a range of failover and resiliency options designed to maximise uptime of voice calls and quality of service offered. ViBE allows for failover to different link types and incorporates features that mitigate the effects of variable packet loss on multiple links such as RAIN Mode.

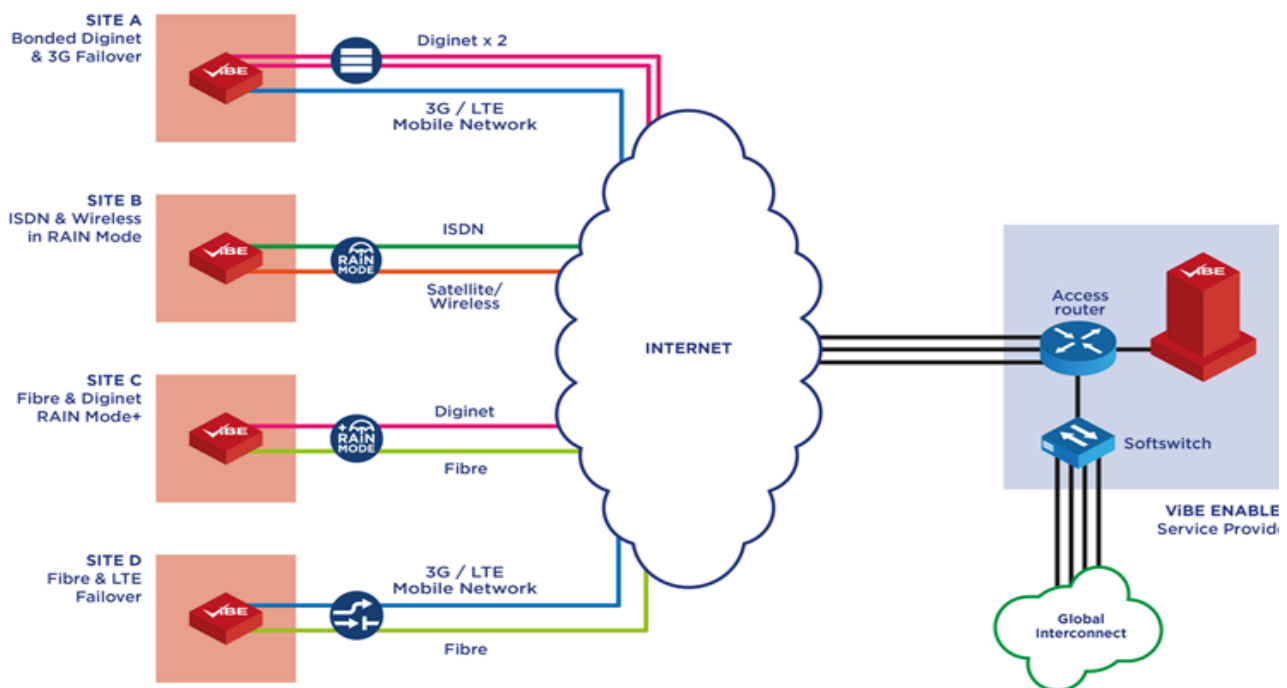
With ViBE you can also boost upstream and downstream bandwidth by bonding up to eight links simultaneously for specialist applications.

ViBE delivers high quality calls by dynamically regulating how many ViBE VoIP calls are possible on the link at any given time and how much data is allowed on a link whilst voice is present. This is regulated based on the actual performance of the connection (ViBE ESP – estimated performance) rather than the expected performance of the link. With last mile connections often delivering variable performance, call quality and volume can now be managed in real-time.

By enabling ESP, ViBE ensures that links are always under-subscribed and reduces the chances of poor quality that may result. Call limits are set automatically as ViBE monitors the link (s) in real-time.

A key benefit of ViBE is its ability to optimise broadband connections (including ADSL) to carry a higher volume of VoIP calls (and data) simultaneously - and all at business class quality and full real-time prioritisation. The number of calls that ViBE can carry at once is dependent on the bandwidth available, but 20 concurrent calls plus other data (email, web browsing and cloud-based applications) is possible based on an upstream bandwidth as low as 256Kbits per second. Furthermore the ability of ViBE to dynamically react to changes in bandwidth performance ensures links are never over-subscribed and QoS is maintained. No other VPN is able to deliver this whilst also offering the benefits normally associated with expensive corporate networks.

## ViBE Connectivity Options



- Based on VPN technology.
- Delivers up to 5 times call concurrency.
- Business grade QoS on calls.
- Essential Call Access Control measures through ESP.
- Dynamic link suspension during poor link quality.
- RAIN mode for service improvement and failover.
- Line bonding & bandwidth aggregation.
- Offers MPLS integration and additional customer features.

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