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Australian Securities Exchange
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Wangle VPN 0.1.50 Release Available on iTunes and Google Play Today

Executive Summary

- Wangle VPN 0.1.50 successful public release on iTunes and Google Play.
- Compliance with ACMA/CAC regulatory requirements successfully achieved, making Wangle VPN the only product in market with this endorsement.
- All bugs identified via initial MVP release resolved in 0.1.50 (Table 1).
- Significant performance and product enhancements in 0.1.50 (Table 2).
- Platform server updates and infrastructure expansion underway including additional POP sites in AU and plans for fast-follow POP expansion into the US, caching and proxy improvements, and enhancements to reporting, statistics and billing data collection features (Table 3).
- Performance Benchmarking Update (Table 4).

Following approval by Apple and the confirmation of compliance with both Australian regulations (ACMA and CAC), Wangle Technologies Limited (**Wangle**, or the **Company**) (ASX:WGL) is pleased to announce the re-release and public availability of Wangle VPN (release 0.1.50) on both iTunes and Google Play.

Wangle VPN release 0.1.50 incorporates major bug fixes and stability improvements identified during the initial minimum viable product (**MVP**) release, incorporates significant performance improvements and core components within the platform have been upgraded to facilitate the roll-out of further bandwidth optimisation features in subsequent releases.

With the resolution of a number of key bugs that were negatively impacting performance and the completion of new features listed above, the platform has produced improved performance across a range of real-world use cases. To demonstrate these improvements, benchmarking results and the relative improvements they represent over the last public release (0.1.30) have been compiled (Table 4).

With the re-release of the App and the subsequent re-instatement of trading, the Wangle VPN platform will resume its soft-launch/MVP phase, allowing the development and infrastructure teams to complete the deployment of Wangle's international network

presence, identify any outstanding issues and gather valuable user data/feedback in preparation for full launch.

Further details including launch marketing plans, product strategy and associated commercialisation models will be provided once the soft-launch phase is complete. The successful review and approval of the iOS App provides the Company with confidence in its ability to resume business as usual. Having successfully proven the viability of its strategy for future submissions and secured documentation to support these submissions, development and support of the Wangle platform can now resume without the uncertainty and restrictions imposed by significant review delays.

Table 1. Bug Fixes & Stability Improvements in 0.1.50

Bug Fix Details	Key Benefit
The resolution of two issues affecting network conditions resulting in the generation of additional network data associated with the retransmission of data lost in transit, and a fault within the tunnelling layer that lead to additional overhead.	Data usage, speed of service.
The resolution of an issue affecting the connection protocols used by the App that resulted in users being unable to connect to the service if the initial connection request was not responded to within a short timeout.	Stability
The resolution of an issue affecting certain android devices resulting in the VPN layer crashing and preventing connection or causing service dropouts. This issue was addressed as part of a major overhaul of the android application.	Stability
The resolution of an issue relating to the live configuration and scaling of the VPN server environment that had resulted in a service outage (approx. 2hrs) and necessitated reduced per-server client allocation. To resolve this issue and remove any unnecessary bounds a new centralised configuration facility was developed and implemented, this is now deployed across the entire network and is fully supported in release 0.1.50 of the application.	Stability, configuration enhancements
The resolution of an issue relating to the switching of network types while connected to the VPN (eg 4g to Wifi) that resulted in loss of connectivity, network locking and delays reconnecting. Both platforms now gracefully switch between network types when possible.	Stability
The resolution of a specific issue affecting iOS leading to higher than anticipated battery drain and the implementation of a range of features to further reduce battery drain during typical usage.	App performance

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Table 2. Additional Enhancements in 0.1.50

Performance Enhancement Details	Key Benefit
Updated user interface including interactive maps and access to a suite of advanced settings such as proxy configuration, MTU configuration and support for changing server locations on-the-fly.	User Experience, Performance
Implementation of proprietary header reduction and enhanced header compression including the ability to activate / deactivate these features on a per-connection basis, allowing users to maintain maximum throughput (speed) or increase data savings depending on their current requirements.	Data savings, Speed
Implementation of advanced proxy and caching facility (iOS) with associated HTTP and TCP performance improvements. Included in this feature-set is the first of a series of new low-level features that improves SSL / TLS traffic handling within the platform. The performance of a number of real-world applications and speed testing facilities has been improved through this inclusion.	Speed
Implementation of Wangle Root certificate installation interface and initial support for advanced SSL optimisation, allowing users to opt-in to the new feature and install the required security certificate on their device. Once installed users gain further SSL throughput improvements, and in future this core feature will be expanded to support full SSL optimisation facilities that are nearing completion.	Speed
Implementation of improved VPN and optimisation core systems on the Android platform and deployment of enhanced android code-protection solution to protect IP. Though still lacking some operating system support required for certain features available on iOS (system-wide proxy configuration) this update enhances all aspects of the application and overall user experience.	User experience, application performance
In-app transactional functionality developed and incorporated into app, to enable future monetisation strategies in development.	Commercial enablement

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Table 3. Wangle Platform Server Updates and Infrastructure Expansion

Server Update and Expansion Details	Key Benefit
Incorporation of proxy and caching support, including HTTP/S and TCP optimisation facilities. This component underpins improved performance when connecting to slower web services and remote services.	Speed, general performance
Improved statistics, reporting and billing data collection service. This component of the platform has been completely re-engineered to support higher throughput and improved concurrency.	Business model support, speed, scalability
Centralised, on-demand configuration and control-server independence. This new feature allows points-of-presence (POPs) to be rapidly deployed and decouples instances from AWS and other specific cloud infrastructure. It also underpins the ability to support users switching between POPs on-the-fly.	Scalability, cost effectiveness, general performance
Enhanced TCP optimisation and header compression. Utilising a range of concurrency improvements and header manipulation techniques the latest release of the server software includes the first of a series of protocol-oriented improvements originally planned for roll-out post-launch.	Data savings, Speed
Addition of new POPs giving customers in AU/NZ access to server locations in Perth, Melbourne, Brisbane and Sydney, and the deployment of new features to the server and web portal (platform) components such as additional network connectivity, peering and exchange access to facilitate the best possible access to content from around the world.	Scalability, Speed, Security

Australian locations will also soon be extended with the Company's first international POPs in North America and Europe providing customers with greater flexibility, access to content and better connectivity while travelling. These new POPs which are currently provisioned and undergoing final testing ahead of release to customers, incorporate the latest release of the Wangle VPN Server technology, and demonstrate the scalability and improved deployment flexibility this offers.

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Table 4. Performance Benchmarking Update

Server	Wangle VPN		Vyper VPN		Express VPN	No VPN
	Perth	Sydney	Perth	Sydney	Sydney	N/A
Speedtest.net (Download, Mbps)	74.36	51.73	5.3	6.54	15.9	15.839
Speedtest.net¹ (Upload, Mbps)	4.358	4.265	2.826	1.527	0.56	4.998
Fast.com (Download, Mbps)	18.1	14.32	1.066	6.76	8.31	14.58

Note:

1. In light of typical usage patterns, and in order to minimise device battery impact, Wangle VPN prioritises the download (downstream) throughput and connection optimisation on mobile. Accordingly upload results of the Speedtest.net platform reflect this bias.

Although the above demonstrate significant improvements over previous results and serve to further highlight the platforms competitive advantage over other VPNs the development team continues to prioritise performance-related development with new features targeting increased speed and data savings already well underway.

Testing was completed on 12 January 2017 over Vodafone 3G network from Subiaco Western Australia. Results represent averages from 10 tests run under matching conditions (iPhone 7, iOS 10.2, Wangle V0.1.50). Tests run using local VPN servers (Perth) and Sydney servers where services provide this option. Speedtest.net servers selected based on VPN server location, with Perth (Telstra) server used for Perth VPN servers and Sydney (Internode) used for Sydney VPN. Fast.com accessed via the Safari mobile browser.

Test Platforms Used:

1. Speedtest.net by Ookla: <https://itunes.apple.com/us/app/speedtest-by-ookla/id300704847?mt=8>
2. Fast.com: <https://fast.com>

VPN Services / Apps Used:

1. Wangle VPN (release 0.1.50): <http://wan.gl/>
2. ExpressVPN: <https://itunes.apple.com/us/app/expressvpn-fast-vpn-proxy/id886492891?mt=8>
3. Vyper VPN: <https://itunes.apple.com/us/app/vpn-service-for-internet-privacy/id577635689?mt=8>

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ABOUT WANGLE TECHNOLOGIES

Wangle Technologies has developed patented algorithms to optimise data flow between devices. It allows faster data transfer and reduces data overhead, while enhancing security and privacy. Wangle's technology provides compelling value to consumers and to service providers looking for innovative low cost solutions to manage network capacity in the face of unprecedented growth in data consumption.

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