Engineering Notes

Phonetica – Server Requirements Software & Input Devices

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Our systems can be Cloud or local server based. We can supply the server, but If you are supplying the server (Real or virtual), your IT will provide a server that meets or *exceed* the following minimum specification:

- Dual Core 1.5Ghz
- 4GB RAM
- 1TB HDD space
- Linux – Fedora
- Docker – we install docker & containerised software
- 100mbit network access,
- Internet access (for translation & voices)
- Typically, one or two voices are resident on server
- Chrome browsers on mobile/PC devices that can access Phonetica. Firefox also supported.

If you are supplying the server, your IT department will be responsible for managing the server/s (or VM). Remote Desktop administrative access & FTP will be required for Microwatt to install the system.

Figure 1- 1U Server - As supplied by Phonetica – rack mount

After installation administrative access can be revoked, and the system can be managed by you. If support and maintenance is required by Microwatt, the administrative access will need to be continued or restored.

As an alternative to FTP access we can supply the software via a digital download (e.g. Dropbox).

Redundancy is a recommended option

The server will require HTTP (port 80) and HTTPS (port 443) access to the Google Translation API.

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the best
in the world.

If external, It will also require HTTP (port 80) access to all PA Bridges (Microplays) within the site. Also requires access to NTP time server, usually via internet. Translation is done via an external server (Google or others) therefore requires external access.
Some voices are on the internet also

PLEASE NOTE

For optimum performance the preferred browser at this time is Chrome. Chrome supports the sound files in the best way. Firefox also now supported.

This may change as browsers become more compatible with HTML5

PA Bridges – (formerly Microplay)

Figure 2 - 1U Rack Mount Bridge

At least one PA Bridge or (Microplay) is required, typically a 1U rack (19") case, installed close to the PA system. One PA Bridge is required for each PA System. So if the site has two terminals (e.g. airport) with independent PA systems, one Bridge is required for each.

The interface – PA Bridge

PA Bridge is a customised interface dependent on the PA system installed.

Figure 3 - PA Bridge miniature

If we don't already have an interface for the PA installed, then we can develop one. We may need to borrow a device to check the interface, especially if the interface is digital. Legacy 0db analogue interfaces are normally off the shelf.
A specification for the interface is usually required.

Power

Servers & Microplays are typically universal inputs (IEC connectors) 80-230v consuming 100W. Alternative (e.g. d.c.) power supplies are available

Figure 4 - IP67 Rugged version

We recommend supporting the power with UPS for the whole system; Server, network (input & microplay) and also the Microplay PA interfaces. The Microplays are Linux with a journalising OS that is power interruption friendly.

Remote Maintenance

We require remote SSH access to the Microplays & remote VPN to the servers to provide maintenance.

Nagios

We prefer to be able to monitor the system status & network using Nagios. If this is the case we need access the NRPE port (5666).

Software

Microplay PA interface

linux based (Centos). Code written in C, C++. Software packet is JSON (spec available if required)

Server – Phonetica

Linux Fedora

Angular & HTML5
This makes Phonetica eminently suitable for tailoring to the exact requirements of the application.

Angular (commonly referred to as "Angular 2+" or "Angular 2")
Is a TypeScript-based open-source front-end web application platform led by the Angular Team at **Google** and by a community of individuals and corporations. Angular is a complete rewrite from the same team that built AngularJS.

HTML5

Is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and current major version of the HTML standard. It was published in October 2014 by the World Wide Web Consortium (W3C) to improve the language with support for the latest multimedia, while keeping it both easily readable by humans and consistently understood by computers and devices such as web browsers, parsers, etc. HTML5 is intended to subsume not only HTML 4, but also XHTML 1 and DOM Level 2 HTML.

HTML5 includes detailed processing models to encourage more interoperable implementations; it extends, improves and rationalizes the markup available for documents, and introduces markup and application programming interfaces (APIs) for complex web applications.[6] For the same reasons, HTML5 is also a candidate for cross-platform mobile applications, because it includes features designed with low-powered devices in mind.

Phonetica uses the latest software and techniques: -

Security – KeyCloak

Keycloak is an open source Identity and Access Management solution aimed at modern applications and services.
Keycloak can also authenticate users with existing OpenID Connect or SAML 2.0 Identity Providers. Again, this is just a matter of configuring the Identity Provider through the admin console.

Modularisation – Docker

Containers are transforming IT and application distribution models much like virtual machines did during the late 90s and early 00s
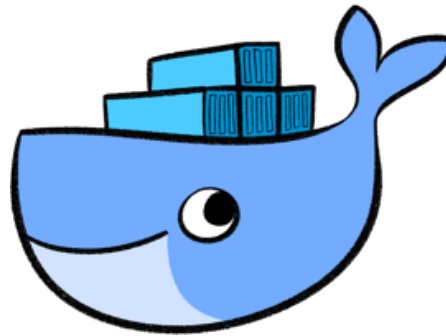
OS containers wrap-up an application in a self-contained filesystem and that includes everything the app needs to run independently: binaries, runtime libraries, system tools, system packages, etc. This level of simplification and compartmentalization allows applications to be spun up much faster than before while ensuring consistent and predictive up time.

Special Versions

Special versions of Phonetica e.g. Military, Lite, call-to-prayer & Chronograph are available.

Chronograph is a version with very accurate timing of messages for use in factories with production lines etc. messages can be tied to Input/Output functions.

Call to Prayer

Is a concept found in many religions of a signal conveyed to members of the religion (e.g. **Adhan**, the Muslim call to prayer) indicating that it is time to engage in a scheduled prayer ritual. Timing of the 'Call to Prayer' using simple or complex 'rules' is performed by Phonetica.

Licences

Purchase of the systems provides a lifetime licence to use the software. Copies of the source code can be lodged with ESCRO or supplied if agreed.

If 'voices' are located on the server, an annual licence is required for each voice.

We normally supply one 'voice' (usually English) on the server & the remaining voices (usually other languages or accents) are accessed via the internet, payment for external voices are charged by character. (**£300** per million (M) characters e.g. 2.2p per message translated.

Bing translate is free, but Google translate does make a small charge per character (**$20** per million (M) characters)

Translation and voices on a Character by character basis are normally included in the maintenance charges. (Fair use applies).

Input Devices

Typically supplied by the customer. These can be PC's, tablets or phones.

We would suggest you check with us regarding compatibility and media playback before purchasing new devices.

PC

PCs must be capable of running an approved browser; Chrome, Firefox.

Tablet

Android, Apple or Windows 10 are supported. Android or Windows 10 is preferred as some Apple iPads have had problems with playing sound files. 10" or 7" screens are preferred. Please inform/consult us about the devices you have chosen to check compatibility and playback.

Smartphone

Phonetica can be used with smart phones but please contact the office for clarification and selection.

Skins

Phonetica can be supplied with Skins to suite touch screens etc. dependent on application.

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