Links Hardware Specification Requirements

Networked Workstation (Links only) or **Hosted Workstation**

Component	Minimum	Recommended
CPU	Intel Core i3 Generation 3 or higher	Intel Core i5 Generation 5 or higher
RAM	4GB	4GB
Hard Disk (Free Space)	10GB	10GB
Monitor Resolution	17" (1024x768 resolution)	19" or larger
OS	Windows 7	Windows 10
.NET	3.5 & 4.6.1 (and above)	3.5 & 4.6.1 (and above)
RDP Client	8.1	8.1

Single User Standalone Systems (SQL Server + Links client)

Component	Minimum	Recommended
CPU	Intel Core i7Generation 3 (or higher) or its equivalent	Intel Core i7 Generation 5 (or higher) or its equivalent
RAM	8GB	12GB
Hard Disk (Free Space)	10GB	20GB
Monitor Resolution	17" (1024x768 resolution)	19" or larger
OS	Windows 7*	Windows 10*
SQL Server	SQL Server 2012	SQL Server 2014 / SQL Server 2016
.NET	3.5 & 4.6.1 (and above)	3.5 & 4.6.1 (and above)

Database Server

Component	Minimum	Recommended
CPU	Intel Core i7 Generation 3 (or higher) or its equivalent	Intel Core i7 Generation 5 (or higher) or its equivalent
RAM	8GB	16GB
Hard Disk (Free Space)	20GB	30GB
OS	Windows Server 2012	Windows Server 2016
SQL Server	SQL Server 2012	SQL Server 2014 / SQL Server 2016
.NET	3.5 & 4.6.1 (and above)	3.5 & 4.6.1 (and above)

Application/Gateway Server

Component	Minimum	Recommended
CPU	Intel Core i7 Generation 3 (or higher) or its equivalent	Intel Core i7 Generation 5 (or higher) or its equivalent
RAM	8GB	16GB
Hard Disk (Free Space)	10GB	20GB
OS	Windows Server 2012	Windows Server 2016
.NET	3.5 & 4.6.1 (and above)	3.5 & 4.6.1 (and above)

Tablet/Mobile Device

Links can either be installed on a Windows OS device, or accessed via Remote Desktop on a non-Windows device.

Windows OS Device (Surface Pro)

Component	Minimum	Recommended
Brand/Model	Microsoft Surface Pro 3	Microsoft Surface Pro 6 (for Business)
CPU	Intel Core i3 Generation 3 (or equivalent) or higher	Intel Core i5-8250U (or equivalent) or higher
RAM	4GB	8GB
Hard Disk (Free Space)	10GB	10GB
Screen Size	10"	12.3" (2736 x 1824 resolution)
OS	Windows 10 Pro	Windows 10 Pro
.NET	3.5 & 4.6.1 (and above)	3.5 & 4.6.1 (and above)

Non-Windows Device (iPad, Galaxy Tab, Lenovo Tab)

Component	Minimum	Recommended
Brand/Model	iPad 5th Gen / Galaxy Tab S3	iPad Pro / Galaxy Tab S4
CPU	Intel Core i3 Generation 3 (or equivalent) or higher	Intel Core i5 Generation 5 (or equivalent) or higher
RAM	4GB	8GB
Hard Disk (Free Space)	10GB	10GB
Screen Size	10"	12"
OS	Any**	Any**
RDP Client	8.1	8.1 or higher***

NOTES

* LinksWeb products such as ActiveCarrot cannot be installed on Windows Server 2003 (or lower) or Retail versions of Windows (7,8,10 etc). Also, .Net 4.6.1 cannot be installed on SBS 2011, therefore this OS cannot be used for the Links application or Gateway.

**Apple iOS or Android.

***There are multiple RDP clients available for the various Operating Systems. Microsoft RDP (for Microsoft OS) or CoRD RDP (for Apple iOS) have been tested with Links and are the preferred options.

IMPORTANT - PLEASE NOTE – NON-SUPPORTED APPLICATIONS:

As of January 1st 2016, *Windows XP, Windows Vista* & *Windows Server 2003* are no longer supported by Links.

As of January 1st 2018, Windows Server 2005 & Microsoft SQL Server 2005 are no longer supported by Links.

As of January 1st 2019, *Windows Server 2008, Windows Server 2008R2* & *Microsoft SQL Server 2008* are no longer supported by Links.

Additional Considerations for Links

- Hard Disk
    - Data transfer speed is important. The faster the drive used (HHD/SSD) the better the performance. This is especially important on a Database Server and/or PC utilising Virtual Machines.
- Network Stability
    - As Links uses a network connection to your Server (if not using a Stand-alone system), the stability of your network is important.

Additional Requirements/Considerations for Active Carrot

- SQL Server
    - SQL Server 2012 Standard/Enterprise minimum. Due to the change of resource use in SQL Server 2012 Express, this may be acceptable for a smaller load site, however SQL Server 2014 Standard/Enterprise or higher is recommended.
- Additional Load
    - Depending on configuration and usage, Active Carrot can generate sustained and significantly more load than the client applications alone. The load generated can vary greatly based on overall database size and activity and the number of requests generated by Active Carrot clients. The additional load needs to be factored in to consideration of deployment environments, especially when the host hardware resources are shared by multiple virtual machines. Additional in-depth information can be found on our Wiki - http://wiki.linksmodularsolutions.com/Links-Hardware-Requirements.ashx
- Security
    - As is necessary with these solutions, the underlying environments will be exposed to the Internet and standard Internet security measures will need to be taken to mitigate risk and potential damage of an attack.
    - The Links Web Service will communicate through a nominated Port. This can also be restricted to a specific IP range.

Additional Hardware Requirements/Considerations for Hosted Solutions

- Due to existing limitations of Microsoft Terminal Services, all hardware being used in a hosted environment (Terminal Services) require Serial (COM) Port connections. An onboard connection is preferred (a motherboard with existing COM ports or a Serial Interface card). USB to Serial adaptors are available (but not recommended).
- If wishing to utilise our EMV/RDPVC solutions for WebCams & PC-EFTPOS, Remote Desktop Client 8.1 is required. Furthermore, if using Windows 7, the Microsoft article KB2592687 (RDP 8.0 client and server components) update must be installed before installing the RDP 8.1 update.

Internet connection:

- Minimum Down/Up 5 Mbps with a Recommend Down/Up of 10 Mbps. However please note that this figure would vary depending on individual need.
- In all cases, a lower latency would be preferable over a higher bandwidth.

Additional Requirements/Considerations for ClassWeb
- IIS 6 or higher
  - IIS is required to be installed and configured for access from the Internet.
- SSL Certificate
  - SSL is required for ClassWeb in order to accept live credit card transactions and protect sensitive personal data in transit.

Current Hardware

All hardware sold through Links will be supplied with the correct interface. If you are planning on using existing Point of Sale equipment, e.g. Receipt Printers, please complete the following table so we can verify they will work in conjunction with the Links software.

Hardware	Make	Model	No of Items

Please confirm that your site meets these hardware specification requirements and you will have computers ready for training. Please return this signed form to your Links Project Manager by the due date requested.

Signed: