# Computing Solutions in the cloud

As we have seen through out this module, computers are a key component of many modern businesses. Indeed it could be said that businesses succeed or fail based in part upon the quality of their IT systems. As the modern world has become more connected and customers have moved to online environments companies have had to follow suit. This has presented both challenges and opportunities for companies. For example companies are now able to interact with consumers in their own homes, generate profiles of their customers and mining data to produce increasingly accurate forecasts of future company activity. Conversely companies have had to make large scale investments in computing infrastructure in order to take advantage of the opportunities that increased IT prevalence has offered. Once a database of customers would have been a few megabytes in size, with today's increased data collection capabilities this same database would be measured in terabytes.

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|   | **Learning Checkpoint 1**  |
|  | Think about a modern business which is just starting out. With regards to its computing requirements;1. Where would the company have to spend its money?
2. 1st on your own but then, confer with your peer next to you to make sure you have definitive answers.
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| Answers:  |

A company's investment in its IT infrastructure is not static. IT requires continued investment and financial provisions have to be made for the replacement of technology. Why is this?

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|   | **Learning Checkpoint 2**  |
|  | 1. Find a definition to Moor's Law.
2. Compare and discuss your answers with your peer next to you.
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| Answers:  |

So if the hardware is constantly improving then the software is also constantly improving in order to take advantage of the benefits offered by improving hardware.

 If a company buys a server costing £3000 and it expects the server to have a lifetime of 3 years then they would need to put aside £1000 each year in order to pay for a new server after 3 years, this is known as depreciation and it represents a significant additional cost to business.

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|   | **Learning Checkpoint 3**  |
|  | We need to consider the issues that a business needs to keep in mind when they are making decisions about their computing solutions - Perhaps at design time and when they are about to investment in computation. 1. What are the issues they need to consider?
2. 1st on your own but then, complete your list with help from your peer.
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| Answers:  |

Today computers are fair more common than ever before. They pervade every aspect of our lives. We view broad band as a utility just like electricity or gas. This shift is known as commoditisation, things move from being new and innovative, to become common place. In 1941 computers such as Z3 were innovative. By 1954, IBM was producing computers as products like the IBM 650 that companies could buy. Today computation (hardware and software) are being made available as a resource that we can utilise just like electricity. Some people refer to this as Cloud Computing or Utility Computing.

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|   | **Learning Checkpoint 4**  |
|  | 1. What is Cloud/Utility computing? Find a few definitions for the terms and explore what they mean.
2. Compare your answers with your peer next to you and expand your explanation.
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| Answers:  |

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|   | **Learning Checkpoint 5**  |
|  | 1. Create a list of terms/names/technologies/services that come under the umbrella of Cloud / Utility Computing.
2. Compare your list with your peer.
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| Answers:  |

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|   | **Learning Checkpoint 6**  |
|  | 1. Four of the terms should be; Azure, Google AppEngine, Amazon S3 and Amazon EC2. Can you explain them? What do these do?
2. Compare your list with your peer.
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| Answers:  |

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|   | **Learning Checkpoint 7**  |
|  | Consider your answers to "Learning Checkpoint 1". 1. In light of this investigation, would you change your answer to LC1?
2. Confer with your peer.
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| Answers:  |