

## COMP9075 - Cloud Strategies and Optimisation

### Cloud Strategy Adoption & Migration Assignment – 40 %

**Deadline: Sunday 5<sup>th</sup> November 2023 @ Midnight**

Read the following case study of an enterprise company who is considering adopting cloud in a public, private or hybrid way.

You are hired as a cloud consultant to advise the company and tasked with writing a report suitable for readout to the executive board. The report should present an executive summary outlining your decision on whether the company should adopt cloud computing. If the company is suitable for cloud adoption, a detailed assessment of the workloads presented is required in terms of migration prioritization & cost etc. Private, public or hybrid solutions should be discussed as appropriate and cloud vendors recommended. If the company (or individual workloads) is deemed currently unsuitable for cloud migration, please provide an analysis and roadmap for how the company (or the workloads) could achieve cloud readiness.

Your report should consider the following headings and include whether a Public, Private or Hybrid solution is required along with possible vendor / pricing options.

**a) Strategic Direction**

- a. Envisioned future state
- b. Economic impact of migration

**b) Analysis**

- a. Review and improve given workload assessment
- b. Security & Data Constraints (Interoperability / Portability)
  - i. Governance
  - ii. Risk Management
  - iii. Compliance
- c. Infrastructure & strategy change

- i. Impact of workload assessment on required infrastructure

**c) Strategic Design**

- a. Required infrastructure (public/private/hybrid)
- b. Workload prioritisation
- c. Cost benefit analysis
- d. People & change strategy
- e. Infrastructure pricing option & strategy

**d) Roadmap**

- a. Migration roadmap & Exit plan
- b. Communication plan

## Case Study

MediCare Inc. is a medical devices company with offices in Ireland and US. The company specialises in the manufacturing and distribution of medical devices for medical institutions across the world. The company is now considering using cloud services and infrastructure as a means of lowering IT costs and removing IT complexity for their end users.

One of the major changes in the company's mission statement devised by the CEO is a push towards a lean, start-up like culture leveraging the use of data analytics to help inform business decisions. The newly appointed COO feels that the amount of inventory that lays waiting in their warehouses outweighs the demand, and wants to introduce a smarter manufacturing process. At the same time, the CIO wants the analysis of the data to inform their next generation of products. To drive this change forward, MediCare Inc has acquired a company that specialises in real time analytics named FastDecisions. This company has a number of software packages that run on different servers, and most importantly the databases used by FastDecisions are vastly different to those used by MediCare.

The company is looking to remove IT complexity from its internal users and external customers as well as adopt real-time dashboards to inform business decisions through improved data analytics. As such, the CIO of Medicare is looking to adopt a **Transformation** mandate and has been investigating whether moving its workloads to Cloud (Public or Private or Hybrid) would improve business value to the company by gaining greater efficiencies and reducing complexity for their employees & customers & distributors.

MediCare Inc. has engaged with a consultancy company to perform an initial cloud analysis for them and the results of the workload analysis are detailed below.

- The **Web/Database Server** workloads are used to market the medical devices and products that MediCare Inc provides to the industry. Separate portals exist for both distributors and customers, although a large amount of the functionality is the same between portals. They have evolved separately, each utilising different technology stacks, on different servers that are not highly virtualized. The user interfaces for each portal are different and individual IT teams are required to maintain both. Adding to the complexity & cost for IT staff, both web portals are serviced by different databases (SQL Server / MySQL) and use different payment systems. The opportunity for workload standardisation, virtualisation & automation here is medium to high.
- The **Analytics** workload is used by the company to process data from customers on the use of the medical devices. It will also be used to monitor the order fulfilment process, in an effort to improve operational efficiency. This workload was introduced by the acquisition

of the data analytics company. This workload has high data constraints, but as it is a new workload for MediCare, it is not yet considered a core workload.

- The **Financial** workload includes both, payroll and storage. It is complex and involves numerous transactions. Busy periods (which are not yet identified or planned for) result in latency issues, impacting customer satisfaction. This workload has high data constraints and is a core workload.
- The **Reporting** workload has evolved over time, using more than one reporting product (Crystal reports, Business Objects). Licensing costs are high. The Reporting, Financial and Analytics workloads have dependencies on each other for many of the reporting and dashboard requirements of the business.
- The newly acquired company brought with them their own IT applications listed as **File, Print Archive** below. The File, Print and Archive workload is not core to the business, has low virtualisation and automation levels and high gaps and opportunities are present for the company to move archived data elsewhere.

The results of the initial workload analysis are below:

Workload Type	Workload Maturity			Gaps and Opportunities			Data Constraints	Core Y/N
	HW/SW Facilities	Virtualisation	IT Automation	Utilisation Opportunities	Workload Standardisation	Business & IT Process		
Web servers & Database	High	Medium	Medium	Low	Medium	High	Low	N
Analytics	High	High	Medium	Low	Medium	Low	High	N
Financial	High	Medium	High	Medium	Medium	High	High	Y
Reporting	Low	Low	Medium	High	High	High	Low	N
File, Print, Archive	Low	Medium	Medium	Low	Medium	Low	Low	N

Figure 1. Workload Analysis for MediCare Inc.

**Note:**

- Approximately 14 – 18 pages should be enough.
- The report text should use 11 point font similar to Times New Roman font and 1.15 spacing.
- Include your name and page numbers/count as a footer or header on each page.
- Submit the report as PDF to prevent formatting issues.
- The PDF filename should be similar to <YOUR\_NAME>\_Assignment1.pdf
- The goal of this assignment is to **research & understand** cloud migration strategies and apply your knowledge in a clear, concise and considered fashion.
- **Any assumptions made which impact your migration decisions should be clearly stated.**

### Marking Scheme

- This assignment is worth 40% of the total grade for this module but will be marked out of 100
  - **Presentation - 10**
    - Spelling - 3
    - Organisation - 4
    - References - 3
  - **Strategic Direction - 15**
    - Envisioned future state - 4
    - Benefits of migration - 5
    - Risks of migration - 6
  - **Analysis - 25**
    - Review and improve - 10
    - Security & Data Constraints - 10
    - Infrastructure & Strategy Change- 5
  - **Strategic Design - 40**
    - Required Infrastructure - 7
    - Pricing options - 7
    - Workload Prioritization - 10
    - Cost benefit analysis - 10
    - People & Change Strategy - 6
  - **Roadmap - 10**
    - Migration roadmap - 7
    - Communication Plan - 3