**Case Project 7-2: Secure Email**

The different ways of mail encryption:

1. Encryption in Transit (using TLS)
2. Enterprise Email Encryption
3. DIY Email Encryption
4. Secure Webmail
5. Encyro

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| Encryption | Features | Advantage | Disadvantage |
| **TLS** | -No need to any set ups, only ensure you use SSL and HTTPS  -Easy to use | -Encrypt data in Transit | -Not encrypt data at rest on servers or on devices |
| **Enterprise Email Encryption** | -Needs extensive configuration  -Used at the larger businesses  -Could be software or hardware | - Encryption is largely transparent for employees  -Offer additional policy features  -Provide compliance with regulations  -Allow managing your own encryption keys  - Easy for enterprise use.  -Encrypt data in transit and data that stored on servers  -High security | - Difficult for smaller businesses  -Not encrypt data that stored on devices |
| **DIY Email Encryption** | -Ability to create a public key and a private key  -Difficult to use  -Provide compliance with regulations | - Only you know the encryption keys  -High security  - Encrypt data in transit and data that stored on servers | - Need to regular backup the public and private keys somewhere safe and secret  -Not encrypt data that stored on devices |
| **Secure Webmail** | -Very easy to setup  - programs that manage the keys for you  - Programs that let you maintain your own encryption keys or passphrases | - Only you know your keys  -High security  - Encrypt data in transit and data that stored on servers | - Difficult way to exchange keys or passwords with recipients  - Need to back up those keys somewhere safe and secret  -Not recommended for businesses  -Not encrypt data that stored on devices |
| **Encyro** | -Easy to use  -No account needed to sign up  - Not store unencrypted messages on your device | -D**esigned for business users without an IT department**  -Highest security  - Encrypt data in transit, stored data on servers and stored data on devices  -Provide protection from Ransomware  -Recommended for who use emails on mobile devices |  |

Using Encyro is the best option for me. It is the most secure way to encrypt data in all of its different status: in transit, in use and at rest, as well as providing good protection from ransomware. In addition, it is easy to use and suitable for individual users and small businesses with no dedicated IT professionals.

**Case Project 7-5: Cloud Computing Benefits**

Cloud computing is becoming the easiest and least expensive alternative for organizations to handle data storage and exchange as well as programs, and systems up and running when compared to on-premises alternatives.

Most probably my school uses cloud computing to store students, employees and grade logs and data in databases on cloud native servers. This also goes for application used by employees, staff and students to easily manage the social media networks and more. Among cloud computing services, my school is using these different cloud services such as google docs, google drive and Dropbox, Microsoft 365 and cloud-based applications Facebook and Tweeter to get all the benefits from cloud computing.

Cloud computing is using IT resources over the Internet with on-demand pricing model. Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider like Amazon Web Services (AWS), Microsoft Azure, Google cloud platform and IBM.

The most popular advantages key words of cloud computing.

* Cost Savings/ pay-as-you-use
* Security
* Scalability
* Flexibility
* Availability
* Fault-tolerance
* High Collaboration
* Disaster Recovery
* Automatic Configuration, Management and production

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| Cloud Computing Vendor | Features | Services | Cost |
| **Amazon Web Services (AWS)** | -Offer flexible compute, storage and networking  -Serverless computing  -Internet Of Things (IOT)  -Machine Learning  -Container services  -Free tier | -EC2  -S3 storage  -EFS  -Amazon Glacier  -RDS  -AWS Cloudformation  -………….and more | -On-demand:  per-second billing  -Upfront Payment Option: Reserved Instances  -Compute power: per GB |
| **Microsoft Azure** | -Offer flexible compute, storage and networking  -Serverless computing  -Internet Of Things (IOT)  -Machine Learning  -Container services  -Free tier | -VMs  -Blob Storage  -Azure Files  -Archive Storage  -Azure SQL database  -Azure Resource Manager  -……………and more | -On-demand: per-hour billing  -Upfront Payment Option: Reserved Instances  -Compute power: per GB |
| **Google Cloud Platform (GCP)** | -Offer flexible compute, storage and networking  -Serverless computing  -Internet Of Things (IOT)  -Machine Learning  -Container services  -Free tier | -VMs  -Google Cloud Storage  -Cloud Filestore  -Datastore  -Google Cloud Deployment Manager  -……………and more | -On-demand: per-second billing  -Upfront Payment Option: Committed use Discounts  -Compute power: per GB |