

Day 2 – DIGITAL BUSINESS TECHNOLOGIES

Digital Business Transformation @ CeBIT Campus 2015

DATALAKE
SOLUTIONS



Cogito Group

Unlocking & Locking Big Data: Defending the DataLake

Part 1: Stephen Lloyd-Jones, MD, DataLake Solutions

Part 2: Richard Brown, MD, Cogito Group



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Part 2: Locking Data

We can no longer ‘fence’ this data in to protect it. We’re witnessing the growth of the internet and the ever increasing connectivity of people and devices; dynamic intelligence over static intelligence and the borderless over the perimeter.



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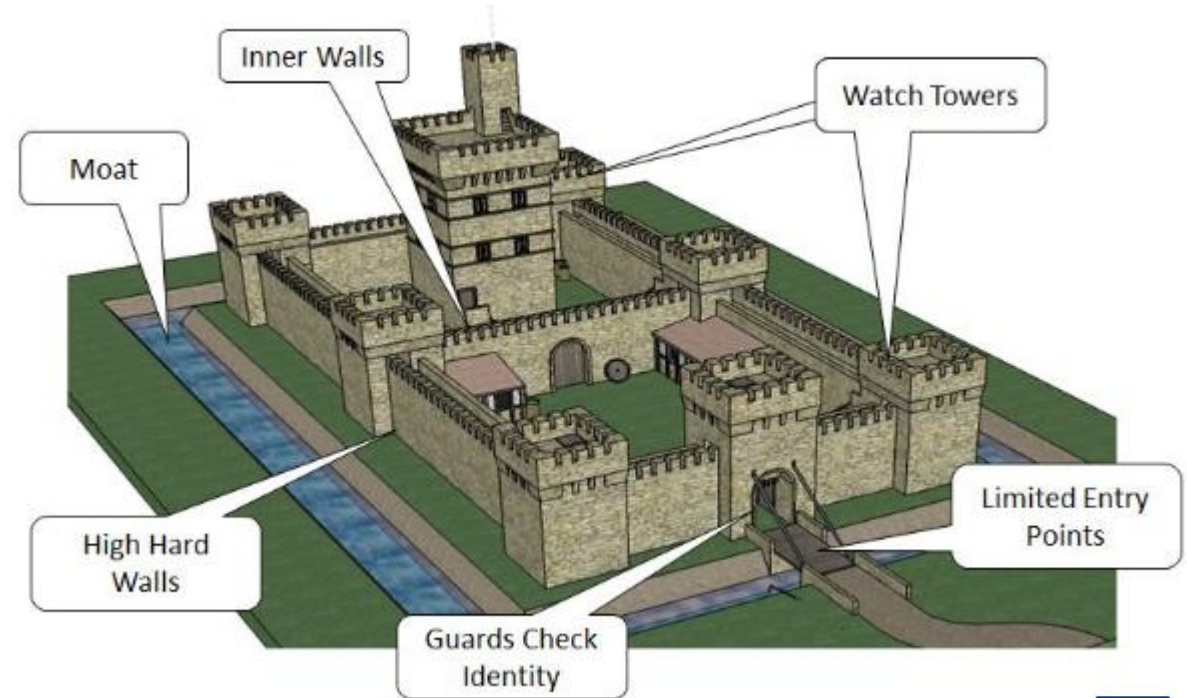
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The Castle Defence

Traditional data protection

- Until now strong protection of the border involved:
 - Restricted entry based on entry points (ports)
 - Not much else
- On compromise only options were:
 - to further restrict entry points
 - Maybe add IDS, IPS and SPI
 - Still have a host of vulnerabilities.



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Rapidly changing landscape

- Not all threats come in through the front door
 - The trusted insider threat
 - Bring Your Own Device
 - Our systems are no longer just on our physical premises but in the cloud and accessible via the internet.
 - Accessed by employees, contractors, customers and partners
 - Accessed any time from anywhere in the world
- Once your in there are very few restrictions
 - Data access is possible
 - With the introduction of Virtualisation you can even steal and entire server or just alter it with malicious intent.



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Rapidly changing landscape

- Business has evolved and needs solutions are adaptable, scalable and integrated. The security approach needs to do likewise.
- Security also needs to:
 - See past one box or solution. A layered approach gives greater assurance
 - See authentication and encryption as essential components.
 - Adapt to internet scale rather than enterprise scale.



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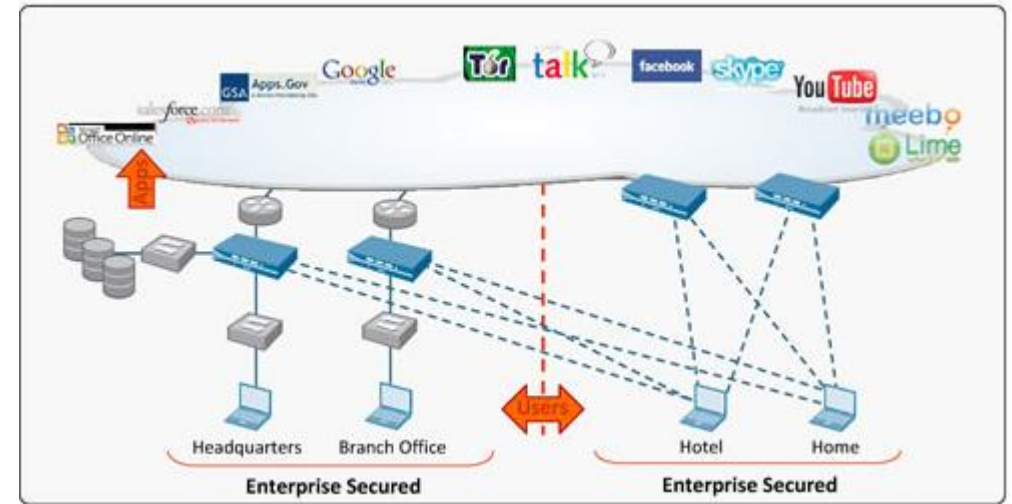
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The New Look Castle

Next Generation Firewalls

- Boundary Protection will always play an important role but has new and improved guards at the entrance including:
 - Heuristic techniques to identify patterns and can now defend against zero-day vulnerabilities
 - Rules based on user identification: Social networking apps can be enabled
 - Content identification: stop threats and prevent data leaks
 - Decryption and inspection of secure packets
 - Filtering and checking based on daily updates (eg URL and AV)



*Image courtesy of Palo Alto Networks



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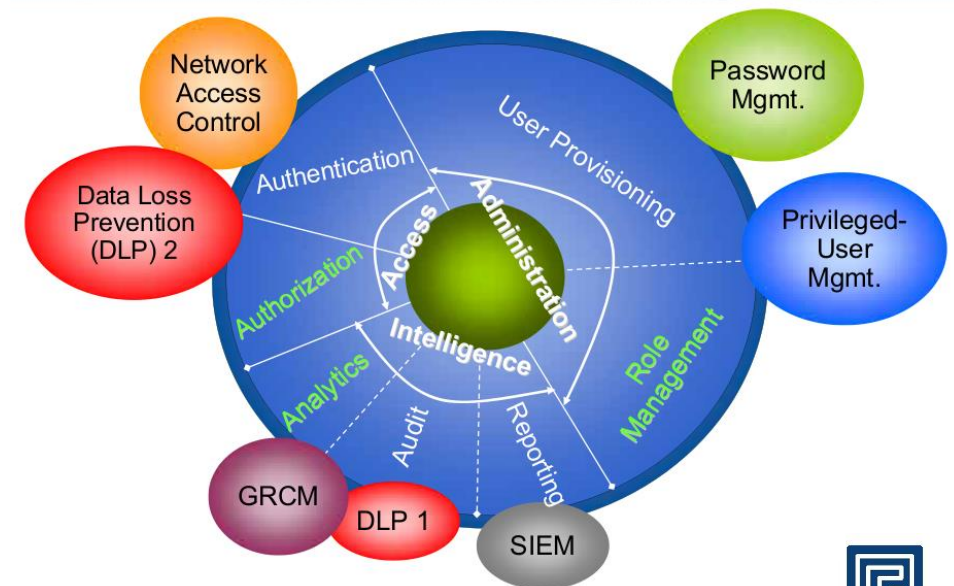
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Identity is KEY

- You need to get it right from the start and to the end
- Provisioning, update and de-provisioning are key
- An 'identity' is the set of attributes that uniquely identify an entity.
- An 'entity' may be:
 - a person (an employee, a contractor)
 - a device
 - a third party (such as a partner, an agency or a service provider)
- Entities include users from outside the organisation and may represent a group or role.
- Organisations now need to gain an understanding of the relationships it has with identities.

Identity and Access Management: Outside the boundary participants



*Image from Gartner



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Authentication

- Know the other end, even internally
- Know that the communications is not only secure but that it has not been tampered with.
- For all devices eg
 - Between Network devices
 - Web services
 - Servers
 - PCs
 - BYODs



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Multi Factor Authentication

- MFA remains one of the most effective measures to prevent a cyber-intruder
- MFA is the provision of multiple pieces of information in order to perform tasks such as system authentication.
 - Something you know (eg username and/or passwords)
 - Something you have (eg OTP or smartcard)
 - Something you are (eg biometrics)
- Edward Snowden proves why it can be so effective.



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Encryption

- Assume a compromise of your boarder will occur at some point.
- Protect your data, not just the border using encryption
- Protecting the keys used for encryption from compromise and loss.
- Make sure you change keys regularly.

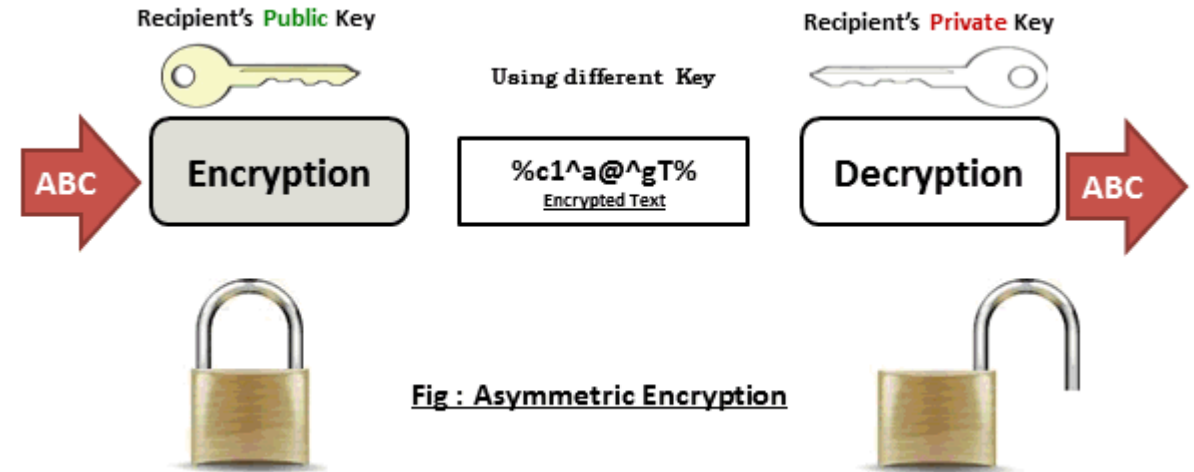


Fig : Asymmetric Encryption



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Protection Examples

- DB
- File
- Storage Unit
 - Don't use storage managed encryption
- Applications
- Virtualised Platforms



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Make sure the keys stay in the kingdom

- Keys to the kingdom must remain in control of the keepers of the castle.
- What environments can I do this with
 - On-premises
 - In the cloud
 - Hybrid on-premises/cloud environment
- Keeping the keys means:
 - On-premises administrators don't need to see the data to perform their roles
 - In the cloud even the trusted service providers can't get to your data.



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THANK YOU!

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Questions

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