



The Cloud and Business

GLOBAL COURSEWARE

Getting Started

Every leader needs to understand the cloud and how it operates, as well as the potential dangers and pitfalls associated with cloud computing.

Workshop Objectives



- Understand what the Cloud is
- Recognize risks and benefits
- Communicate effectively
- Employ business processes
- Monitor performance



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Cloud is about how you do computing, not where you do computing.

Paul Maritz

MODULE TWO

The Cloud

With a clear understanding of the cloud, you will be able to make the best decisions for your customers and your business.



Definition

The exact size of the cloud is not known, but there are some estimates that it is an Exabyte or one billion gigabytes.

History

The idea of the cloud began with early computers in the 1950s.





Current Uses

Storage

Backup

Disaster
recovery

Planning

Trends

- Most organizations keep work in the cloud
- There is an increase in IT centralization
- Focus on the cost and wasted spending



Practical Illustration



- Definition
- History
- Current Uses
- Trends

Module Two: Review Questions

1. What is an Exabyte?

A. One billion gigabytes

B. One million gigabytes

C. One thousand gigabytes

D. Unknown

Module Two: Review Questions

2. What is a cloud option?

A. Public

B. Private

C. Hybrid

D. All of the above

Module Two: Review Questions

3. What did Licklider develop?

A. Cloud

B. ARPANET

C. A & B

D. None of the above

Module Two: Review Questions

4. When was the term cloud computing coined?

A. 1970s

B. 1950s

C. Unknown

D. 1990s

Module Two: Review Questions

5. What will determine the uses of the cloud in a business?

A. Functions

B. Needs

C. A & B

D. Unknown

Module Two: Review Questions

6. What is typically true about storage in the cloud?

A. Cheaper

B. More expensive

C. More secure

D. None of the above

Module Two: Review Questions

7. What is true of trends?

A. They are consistent

B. They change

C. They can be ignored

D. All of the above

Module Two: Review Questions

8. What is the leading cloud service?

A. Amazon

B. AWS

C. A & B

D. None of the above

Module Two: Review Questions

9. The _____ has become a part of our everyday vocabulary.

A. Cloud

B. Storm

C. Rain

D. A & C

Module Two: Review Questions

10. The cloud is a tangible thing.

A. True

B. False



“

You have to have a business model you believe in and like.

Brian L. Roberts

MODULE THREE

Models for Business

There are three basic models of cloud computing: Software as Service, Platform as Service, and Infrastructure as Service.



Software as a Service

Updates
are
automatic

Usage is
scalable

Accessible
from any
location
or device

Platform as a Service

- Automatic updates
- Lower costs
- Software and hardware will be compatible



Infrastructure as a Service



Choice of configuration

Money saved on IT costs of cloud

IT can focus on in-house operations

Other Options

- Security as a Service (SECaaS)
- Mobile Backend as a Service (MBaaS)
- Server less Computing



Practical Illustration



- Software as a Service
- Platform as a Service
- Infrastructure as a Service
- Other Options

Module Three: Review Questions

1. What is a con associated with SaaS?

A. Security breaches

B. Vendor support

C. Offering changes

D. All of the above

Module Three: Review Questions

2. What is the most popular cloud model?

A. IaaS

B. PaaS

C. SaaS

D. None of the above

Module Three: Review Questions

3. What is the main reason why someone would choose the PaaS?

A. Scalability

B. Software control

C. AWS

D. All of the above

Module Three: Review Questions

4. What are the pros of PaaS?

A. Automatic updates

B. Lower costs

C. Software and hardware will be compatible

D. All of the above

Module Three: Review Questions

5. What is another term for IaaS?

A. Infrastructure as a Service

B. Infrastructure as a Server less

C. Hardware as a Service

D. A & C

Module Three: Review Questions

6. What does the IaaS include?

A. Hardware

B. Software

C. Storage

D. All of the above

Module Three: Review Questions

7. What is an example of Security as a Service?

A. AWS

B. Virus software

C. Apprenda

D. Unknown

Module Three: Review Questions

8. In which of the following does the application code only execute when necessary?

A. Server less Computing

B. Security as a Server

C. MBaaS

D. All of the above

Module Three: Review Questions

9. There is/are _____ basic models of cloud computing:

A. One

B. Two

C. Three

D. Unknown

Module Three: Review Questions

10. All models available have been discussed in this module.

A. True

B. False



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When you learn and choose to turn every disadvantage to your advantage, you become unbeatable.

Kevin Abdulrahman

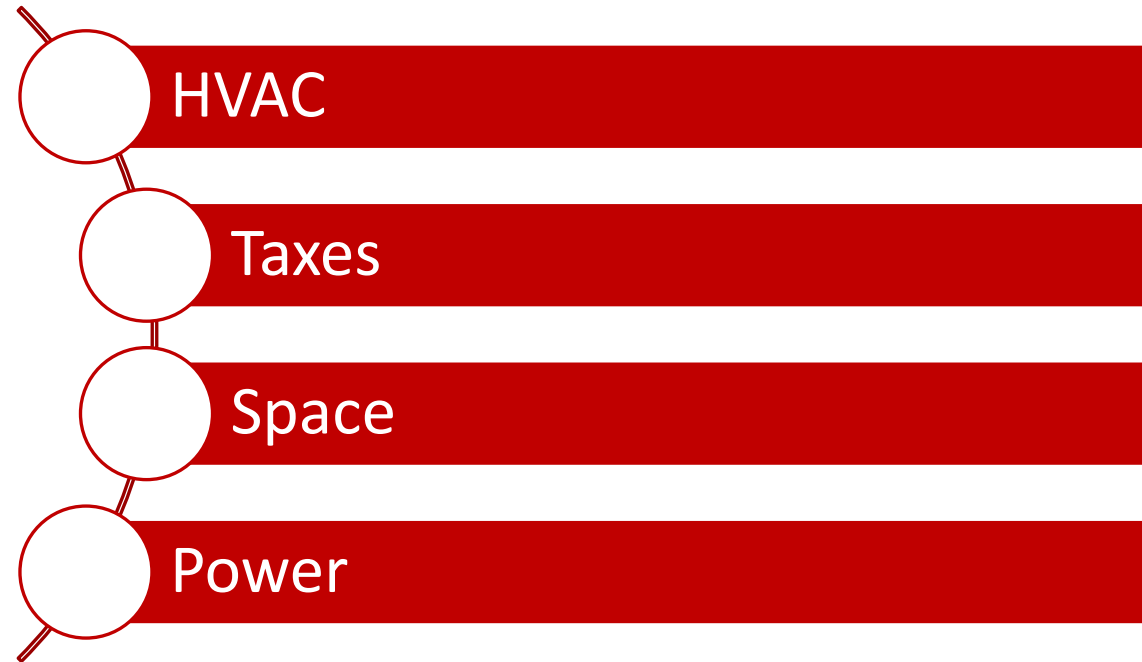
MODULE FOUR

Advantages

The basic advantages of implementing the cloud in business are financial, labor, productivity, and simplicity.



Data Center Finances



Labor Finances

One of the largest savings that the cloud offers is through labor.





Productivity

- Ease of connection
- Adaptability
- Reliability

Ease of Use

Employees who use the cloud do not need to have the strongest technical skills to be productive.



Practical Illustration



- Data Center Finances
- Labor Finances
- Productivity
- Ease of Use

Module Four: Review Questions

1. What is the risk of the data center maintenance?

A. Out of date applications

B. Security

C. Out of date tasks

D. Poor management

Module Four: Review Questions

2. What determines the cost of a data center?

A. Size

B. Location

C. Purpose

D. All of the above

Module Four: Review Questions

3. What is done in the cloud that reduces labor?

A. Upgrades

B. Administration

C. Maintenance

D. All of the above

Module Four: Review Questions

4. What can reduce labor by 30%?

A. Organization

B. Automation

C. Hybrid systems

D. All of the above

Module Four: Review Questions

5. What does collaboration improve?

A. Labor

B. Understanding

C. Productivity

D. None of the above

Module Four: Review Questions

6. What aspect of the cloud helps companies change with the market?

A. Adaptability

B. Connection

C. Reliability

D. A & C

Module Four: Review Questions

7. How does the cloud benefit small businesses that do not specialize in IT?

A. Cost

B. It does not

C. Scalability

D. Simplicity of use

Module Four: Review Questions

8. What is necessary to use the cloud?

A. IT understanding

B. Computer skills

C. Data center

D. None of the above

Module Four: Review Questions

9. _____ computing has many advantages for businesses.

A. Personal

B. Cloud

C. A and B

D. Neither A nor B

Module Four: Review Questions

10. Traditional data centers can be much more expensive than the cloud.

A. True

B. False



Take calculated risks. That is quite different from being rash.

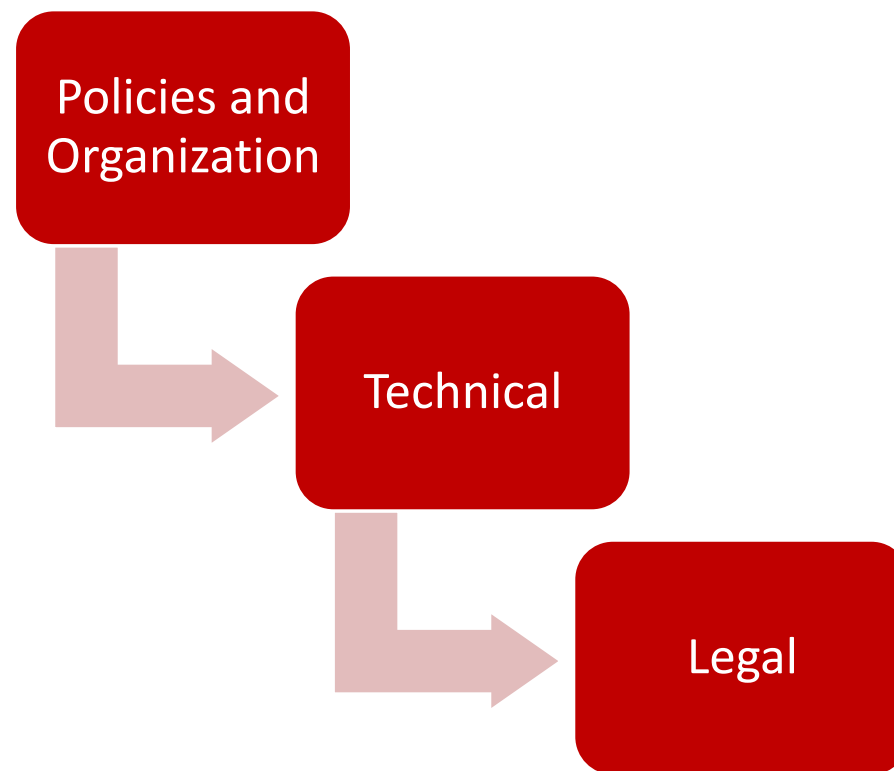
George S. Patton

Address Risks

Cloud computing does have inherent risks that should be addressed before it is implemented into any business.



Assessment



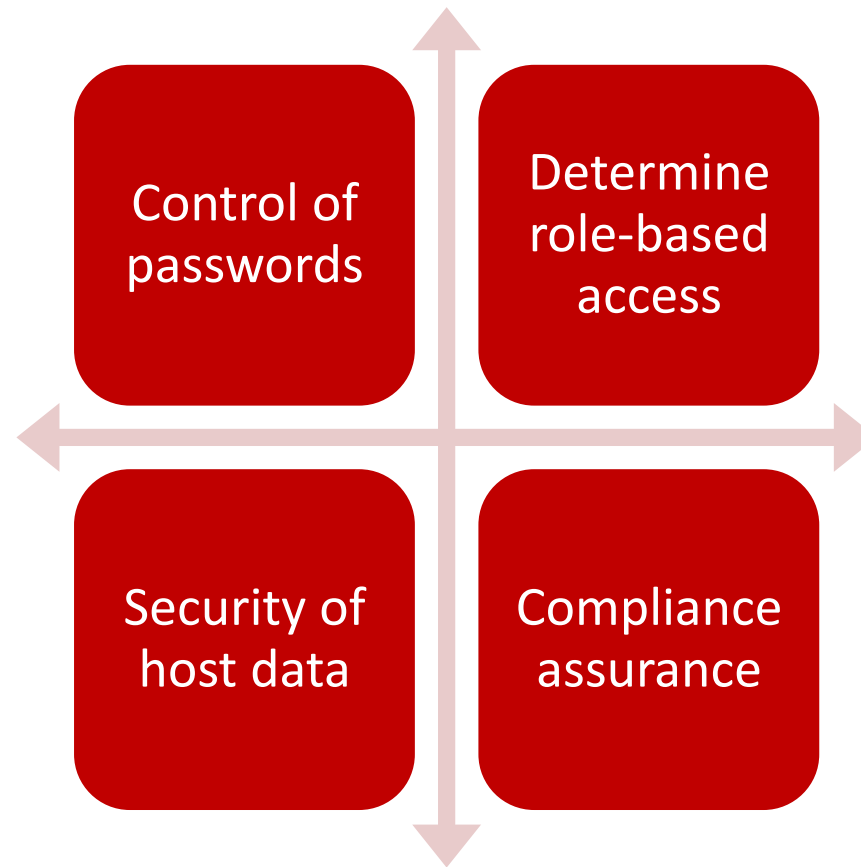
Prioritize Concerns

- Have each department identify their risks
- Prioritize the risks that are identified





Address Risks



Focus on Success

- Improvement in communication
- Money saved
- Increased productivity



Practical Illustration



- Assessment
- Prioritize Concerns
- Address Risks
- Focus on Success

Module Five: Review Questions

1. What is a good starting point for addressing risks?

A. Prioritization

B. Contact providers

C. Risk assessment

D. None of the above

Module Five: Review Questions

2. How many levels of risk does ENISA define?

A. 5

B. 8

C. 7

D. 4

Module Five: Review Questions

3. What is an example of a basic activity?

A. Updates

B. Patches

C. Matrix

D. A & B

Module Five: Review Questions

4. What is the main cloud concern for most organization?

A. Security

B. Updates

C. Automation

D. Finances

Module Five: Review Questions

5. What can organizations do to limit the risk?

A. Train employees

B. Share when attacks occur

C. Include certain information

D. A and C

Module Five: Review Questions

6. What level of control must be determined for an assessment?

A. Passwords

B. Security

C. Role-based access

D. All of the above

Module Five: Review Questions

7. What will improve employee buy-in?

A. Control

B. Focus on success

C. Information

D. All of the above

Module Five: Review Questions

8. What should help spotlight success?

A. Methods of communication

B. Trends

C. Reports

D. A & C

Module Five: Review Questions

9. No _____ is without risk.

A. Person

B. Sales

C. Action

D. None of the above

Module Five: Review Questions

10. A basic _____ is a good way to assess risk.

A. Increase in security

B. Strategic plan

C. Risk assessment

D. All of the above

A high-contrast, black and white close-up of a human eye. The eye is the central focus, with the iris and pupil clearly visible. The surrounding skin and eyelids are in deep shadow, creating a dramatic, intense atmosphere. A white horizontal line is positioned above the quote, and a double-slash symbol is to the left of the quote.

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Distrust and caution are the parents of security.

Benjamin Franklin

MODULE SIX

Security

Security is one of the main concerns that people have when they face the decision of using cloud computing.



Understand Weaknesses

Encryption

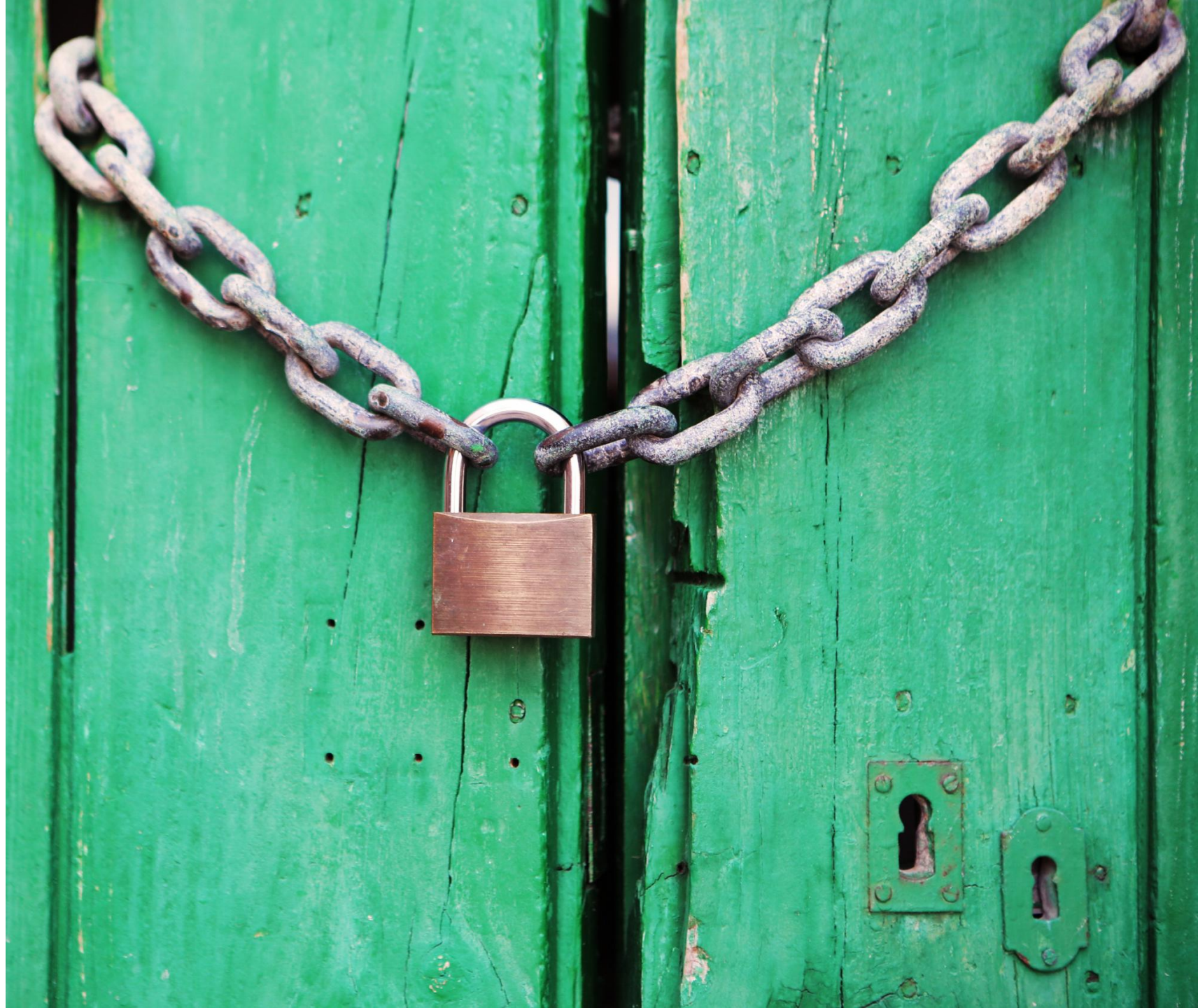
Digital
Signatures

Data
Indexing

Decentralized
Indexing

Breaches

The greatest, and most well-known security threat that companies face in the cloud is the data breach.





Identity Management

- Single sign-on
- Centralized data
- Logging software

Strategies

It is a good idea to have a risk management specialist involved in developing strategies.



Practical Illustration



- Understand Weaknesses
- Breaches
- Identity Management
- Strategies

Module Six: Review Questions

1. What uses a single key?

A. Encryption

B. Symmetric

C. Asymmetric

D. All of the above

Module Six: Review Questions

2. How many key bits does the NIST recommend?

A. 150

B. 125

C. 675

D. 75

Module Six: Review Questions

3. What is blended in the identity management system?

A. HR

B. Supply chain

C. Customer database

D. All of the above

Module Six: Review Questions

4. What will logging software help identify?

A. Hacking

B. Inappropriate use

C. A & B

D. None of the above

Module Six: Review Questions

5. What is helpful for developing security strategies?

A. Risk management specialist

B. Identity management system

C. Encryption

D. None of the above

Module Six: Review Questions

6. What determines the necessary security strategies?

A. Needs of organization

B. Monitoring

C. Relationship

D. Software

Module Six: Review Questions

7. Whose unauthorized viewing is a breach?

A. Hacker

B. Anyone

C. Employee

D. It depends on the circumstances

Module Six: Review Questions

8. Who is responsible for losses due to a data breach?

A. Customers

B. Hackers

C. Employees

D. The organization

Module Six: Review Questions

9. What is one of the main concerns people have when they face the decision of using the cloud?

A. Cost

B. Efficiency

C. Security

D. None of the above

Module Six: Review Questions

10. Cloud users are guaranteed 100% security.

A. True

B. False

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The personal computer can be a virtual device.

Barry Lam

MODULE SEVEN

Device Management

Device management covers both physical and mobile, or virtual, devices.



Device That Can Connect

Laptops

Tablets

Phones

Notebooks

Desktops

The automation of cloud computing benefits desktops used in businesses.





Benefits

- Offloading
- Storage
- Security
- Vendor Lock-in

Monitoring

- Connect devices to the cloud
- Authenticate
- Update devices



Practical Illustration



- Devices That Can Connect
- Desktops
- Benefits
- Monitoring

Module Seven: Review Questions

1. What is the main part of device management?

A. Analytics

B. MDM

C. Centralization

D. Updates

Module Seven: Review Questions

2. What are uncommon devices that companies use?

A. Watches

B. Glasses

C. Phones

D. A & B

Module Seven: Review Questions

3. Where is information stored with desktop use?

A. Computer drive

B. Cloud

C. External drive

D. All of the above

Module Seven: Review Questions

4. What is necessary to ensure updates occur on desktops?

A. Service provider

B. Employee cooperation

C. Management

D. Unknown

Module Seven: Review Questions

5. What will improve performance by moving data to the cloud?

A. Offloading

B. Storage

C. Security

D. Vendor lock-in

Module Seven: Review Questions

6. Where is data more secure?

A. Everywhere

B. Tablet

C. Cell phone

D. Cloud

Module Seven: Review Questions

7. What do experts recommend when choosing a monitoring system?

A. Only use established brands

B. Test first

C. Choose one without encryption

D. None of the above

Module Seven: Review Questions

8. What is a risk of employees using their own devices?

A. Privacy

B. Authentication

C. Security

D. A & C

Module Seven: Review Questions

9. Device management covers physical devices only.

A. True

B. False

Module Seven: Review Questions

10. Numerous devices can connect to the cloud.

A. True

B. False



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Each new situation requires new architecture.

Jean Nouvel

Service Oriented Architecture

When service oriented architecture is used correctly, it can provide significant benefits to the organization through the different services that it provides.



Definition

Resource Oriented

Method Oriented

Event Driven

With the Cloud

SOA can make using the cloud much more effective for businesses, particularly through virtualization.





Services



Benefits to the Business

- Data translation
- Internal software organization
- Flexibility
- Reusability



Practical Illustration



- Definition
- With the Cloud
- Services
- Benefits to the Business

Module Eight: Review Questions

1. What is Not an SOA model?

A. Resource oriented

B. Event driven

C. A & B

D. Method oriented

Module Eight: Review Questions

2. What is SOA architecture for?

A. Cloud

B. SaaS

C. A & B

D. Software apps

Module Eight: Review Questions

3. What does the cloud provide SOA?

A. Virtualization

B. Metadata

C. Processing power

D. Architecture

Module Eight: Review Questions

4. What does the SOA structure improve?

A. Virtualization

B. Price

C. Security

D. Unknown

Module Eight: Review Questions

5. What is Not a business application?

A. Customer service

B. Event log-in

C. Inventory

D. Shipping

Module Eight: Review Questions

6. What is Not included in IT infrastructure services?

A. Event log-in

B. Message transfer

C. Inventory

D. Exception handling

Module Eight: Review Questions

7. What does the SOA work with to benefit businesses?

A. Cloud

B. Nothing

C. Hardware

D. None of the above

Module Eight: Review Questions

8. What will SOA and the cloud improve?

A. Business

B. Action

C. Architecture

D. A & C

Module Eight: Review Questions

9. What does SOA stand for?

A. Save Our Access

B. Sell Our Apps

C. Service Oriented Architecture

D. None of the above

Module Eight: Review Questions

10. Service oriented architecture is not a web service.

A. True

B. False



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Don't make the process harder than it is.

Jack Welch

MODULE NINE

Business Processes

One of the main benefits to business is the ability to scale applications in different ways.



Scale Applications

Vertical

- Scaling Up

Horizontal

- Scaling Out

Web-based

Every cloud application is a web application, but web applications are not always cloud applications.





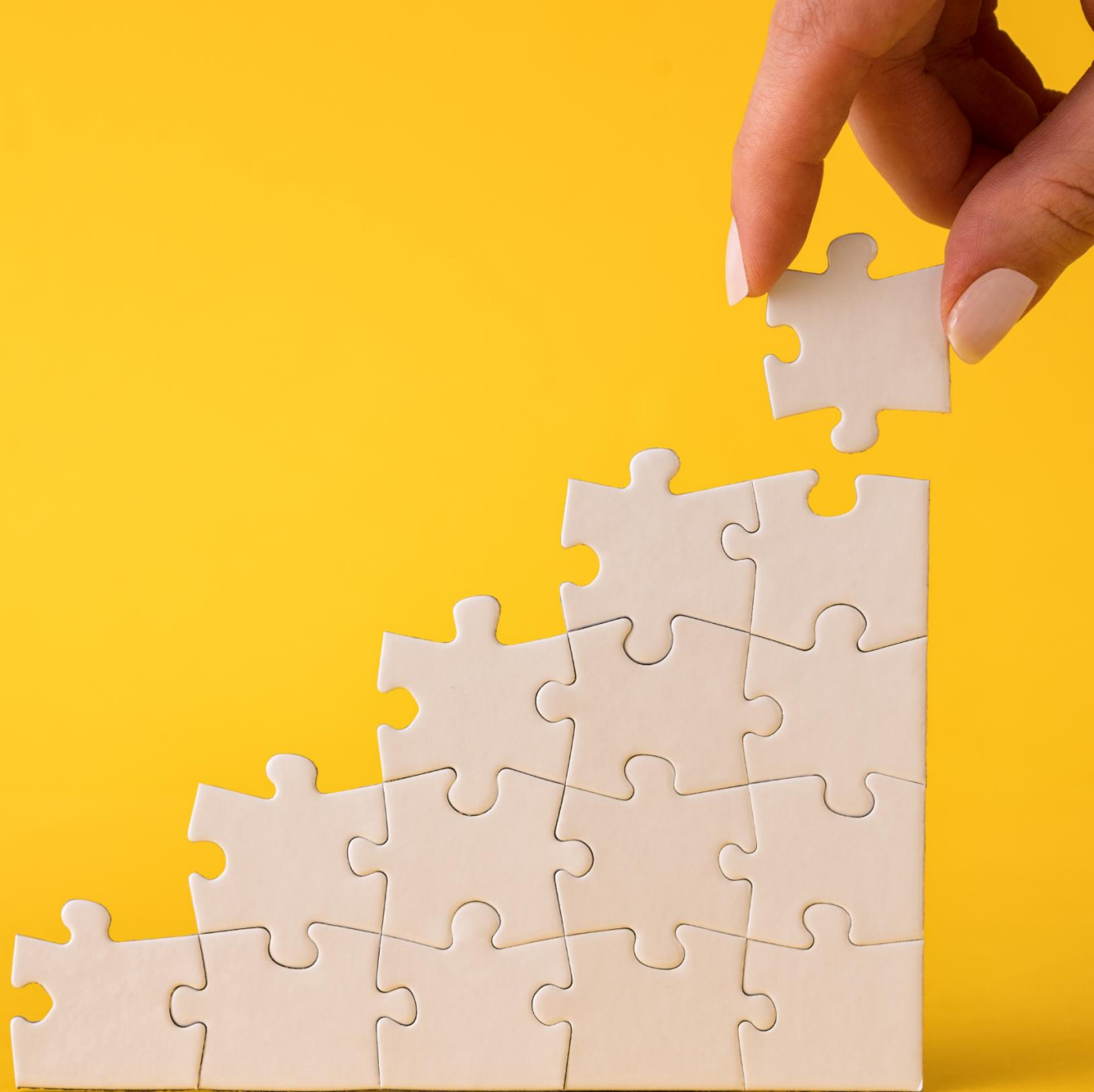
Examples

Before deciding, do your research carefully and consider what your company needs.

Free trials will help determine if the applications will be successful.

Predictions

Business process management has had, one of the higher growth rates of cloud services.



Practical Illustration



- Scale Applications
- Web-based
- Examples
- Predictions

Module Nine: Review Questions

1. When is vertical scaling used?

A. Under-performance

B. New resources are added

C. In distributed architecture

D. All of the above

Module Nine: Review Questions

2. What uses distributed architecture?

A. Vertical scaling

B. Horizontal scaling

C. A & B

D. None of the above

Module Nine: Review Questions

3. What do web applications run on?

A. Computer systems

B. Web servers

C. A & B

D. None of the above

Module Nine: Review Questions

4. What does the cloud increase in applications?

A. Scalability

B. Availability

C. A & B

D. None of the above

Module Nine: Review Questions

5. What will help determine if a business process application is useful?

A. Free trial

B. Cost

C. Rank

D. Guarantees

Module Nine: Review Questions

6. What is the advantage of creating apps?

A. Less expensive

B. None

C. Increased purchases

D. Meets individual needs

Module Nine: Review Questions

7. What is the projected growth for 2024?

A. 25 billion

B. 10 billion

C. 20 billion

D. 106 billion

Module Nine: Review Questions

8. What will make business applications more desirable?

A. Nothing

B. Personalized apps

C. Decreased cost

D. B & C

Module Nine: Review Questions

9. The cloud, and cloud computing, has the potential to _____ different business processes.

A. Negatively affect

B. Improve

C. A and B

D. Neither A nor B

Module Nine: Review Questions

10. The scaling of _____ is one of the great benefits of cloud technology.

A. Staff

B. Applications

C. A and B

D. Neither A nor B

//

People mistake their limitations for high standards.

Jean Toomer



Standards

Understanding the different standards and practices will help you better manage the integration and the interoperability of the cloud.

A hand holding a glowing lightbulb against a sunset sky. The lightbulb is illuminated from within, casting a warm glow. The background is a sky with soft, golden clouds, suggesting a sunset or sunrise. The hand is positioned in the lower-left corner, holding the base of the lightbulb.

Best Practices

- Manage all data
- Begin with the infrastructure
- Pay attention to data integration
- Governance

Organizational Standards

Different cloud-related organizations provide their individual standards, although few are specific.





Standards in the Cloud

Security

Transparency

Scalability

Interoperability and Integration

- Process
- Presentation
- Data



Practical Illustration



- Best Practices
- Organizational Standards
- Standards in the Cloud
- Interoperability and Integration

Module Ten: Review Questions

1. Where should best practices begin?

A. Integration

B. Data management

C. Infrastructure

D. None of the above

Module Ten: Review Questions

2. What does governance review for?

A. Efficacy

B. Protocols

C. Security

D. A & C

Module Ten: Review Questions

3. How many nations members are in the IEEE?

A. 127

B. 160

C. 96

D. 75

Module Ten: Review Questions

4. What is true of standards?

A. They constantly change

B. Nothing

C. They are static

D. They are universal

Module Ten: Review Questions

5. What will scalability do?

A. Meet demands

B. Provide Security

C. Respond quickly

D. All of the above

Module Ten: Review Questions

6. What is Not included in scalability?

A. Governance

B. Third party certification

C. Applications

D. Networks

Module Ten: Review Questions

7. What typically provides better interoperability?

A. PaaS

B. SaaS

C. IaaS

D. All of the above

Module Ten: Review Questions

8. What is included in integration?

A. Process

B. Presentation

C. Data

D. All of the above

Module Ten: Review Questions

9. Cloud computing is most effective when _____.

A. Infrastructure is strong

B. Integration is encouraged

C. Standards are maintained

D. Unknown

Module Ten: Review Questions

10. These standards are _____.

A. Company

B. Personal

C. Organizational

D. All of the above



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We are constantly monitoring and updating our sites.

Gary King

MODULE ELEVEN

Monitoring

Cloud computing is like any other business tool. There is no way to be successful without careful monitoring.



Governance

- It should be influenced by the governance of the business
- Address IT
- Not be limited to a single field

Measure Performance

- What percentage of applications are being monitored?
- SLA reach the performance goals





Methods of Measurement

Measuring the cloud requires key performance indicators that are important to your business.

Monitor Services

Services that provide measured performance will easily provide tracking statistics.



Practical Illustration



- Governance
- Measure Performance
- Methods of Measurement
- Monitor Services

Module Eleven: Review Questions

1. What is necessary to include in your governance body?

A. Goals

B. Specific KPIs

C. People who understand the
cloud

D. Anyone

Module Eleven: Review Questions

2. What does EA governance cover?

A. Framework

B. Architecture

C. Optimization

D. Alignment

Module Eleven: Review Questions

3. What will determine measurement?

A. Profit margin

B. Sales

C. Reports

D. Company needs

Module Eleven: Review Questions

4. What should performance measurements address?

A. Security

B. Speed

C. Reliability

D. All of the above

Module Eleven: Review Questions

5. What should you compare with metrics?

A. KPIs

B. Goals

C. A & B

D. None of the above

Module Eleven: Review Questions

6. What will help measure KPIs?

A. Surveys

B. Systems

C. Reports

D. All of the above

Module Eleven: Review Questions

7. How do outside monitoring systems benefit companies?

A. Save time

B. Save money

C. It does not

D. Identify strengths

Module Eleven: Review Questions

8. What should be monitored when using outside monitoring services?

A. KPIs

B. Goals

C. ROI

D. None of the above

Module Eleven: Review Questions

9. Cloud computing is like any other business tool; there is no way to be successful without _____.

A. Sales

B. Customer service

C. Careful monitoring

D. None of the above

Module Eleven: Review Questions

10. The purpose of the Cloud governance is to:

A. Establish policies

B. Establish principles

C. A and B

D. Neither A nor B

Wrapping Up

Although this workshop is coming to a close, we hope that your journey to learn about the role of the cloud in business is just beginning.



Words From the Wise

If someone asks me what cloud computing is, I try not to get bogged down with definitions. I tell them that, simply put, cloud computing is a better way to run your business.

- Mark Benioff

I don't need a hard disk in my computer if I can get to the server faster... carrying around these non-connected computers is byzantine by comparison.

- Steve Jobs

Cloud computing is often far more secure than traditional computing, because companies like Google and Amazon can attract and retain cyber-security personnel of a higher quality than many governmental agencies.

- Vivek Kundra