



EMS Invirotel Energy Management
Smart About Energy

USING THE CLOUD FOR REVENUE ENHANCEMENT IN UTILITIES

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Association

www.invirohub.com



INFRASTRUCTURE PROBLEM



Utility Readings Box
Running on Microsoft
Server 2008



Billing System
Running Oracle on
Unix box



HR & CRM
Legacy System on



Internet Server
Running municipal
web site



Where to host the mobile app
Android Store / Apple Store



New Version of Windows – New RAM needs Quad Core Processor



New Hard Drives Required – Data Bloat



Systems need Redundancy – Do we need 2 of each



What happens if local server room catches fire or is flooded

MAINTENANCE PROBLEM



Back ups – Local and Off Site



Networking Set up within computer room and from computer room



Application monitoring – 24/7 problem & 99.99% up time



Disaster Recovery



Cyber attacks and denial of services and security breaches



STAFF

- Software Developers
- Systems
- DBAs
- Networking



New Software Releases



New Version Releases - Patches



Messaging



Storage



Notification



Data
Warehouse



Access



Mobile



Big Data

Myth 1: Secure environment because locally hosted – disaffected employee

Myth 2: Data Integrity because local environment – key ring

Myth 3: Physical Presence - Control

Myth 4: Firewalls and Denial of Service protection

Myth 5: Local is not really local – outsourcing 3 parties





- Servers
- Software Licenses
- Redundancy
- 85% unused capacity
- 12 month depreciation
- Limited Storage Capacity
- Limited Processing Capacity
- Staff for Infrastructure
- Staff for Maintenance
- Staff for Monitoring
- Staff for Security

CASE STUDY

⚡ 100,00 Electricity Meters

💧 120,000 Water Meters

● Pre paid

● Post Paid

Total Once Off: R 14 Million
Total monthly: R 200,00.00

2 X 4 Quad Server 4 GB
RAM - 2TB Hotswappable
HD – Redhat & Oracle
License
(60 % capacity – billing)
– R 600,000

1 X 4 Quad Server 8 GB
RAM – 2TB Hotswappable
HD – MS Server 2012 MS
SQL Server
(100 % capacity vending)
R 250,000

1 X 2 Quads Server 8 GB
RAM – 1TB Hotswappable
HD – (40 % capacity CRM)
– R 70, 000

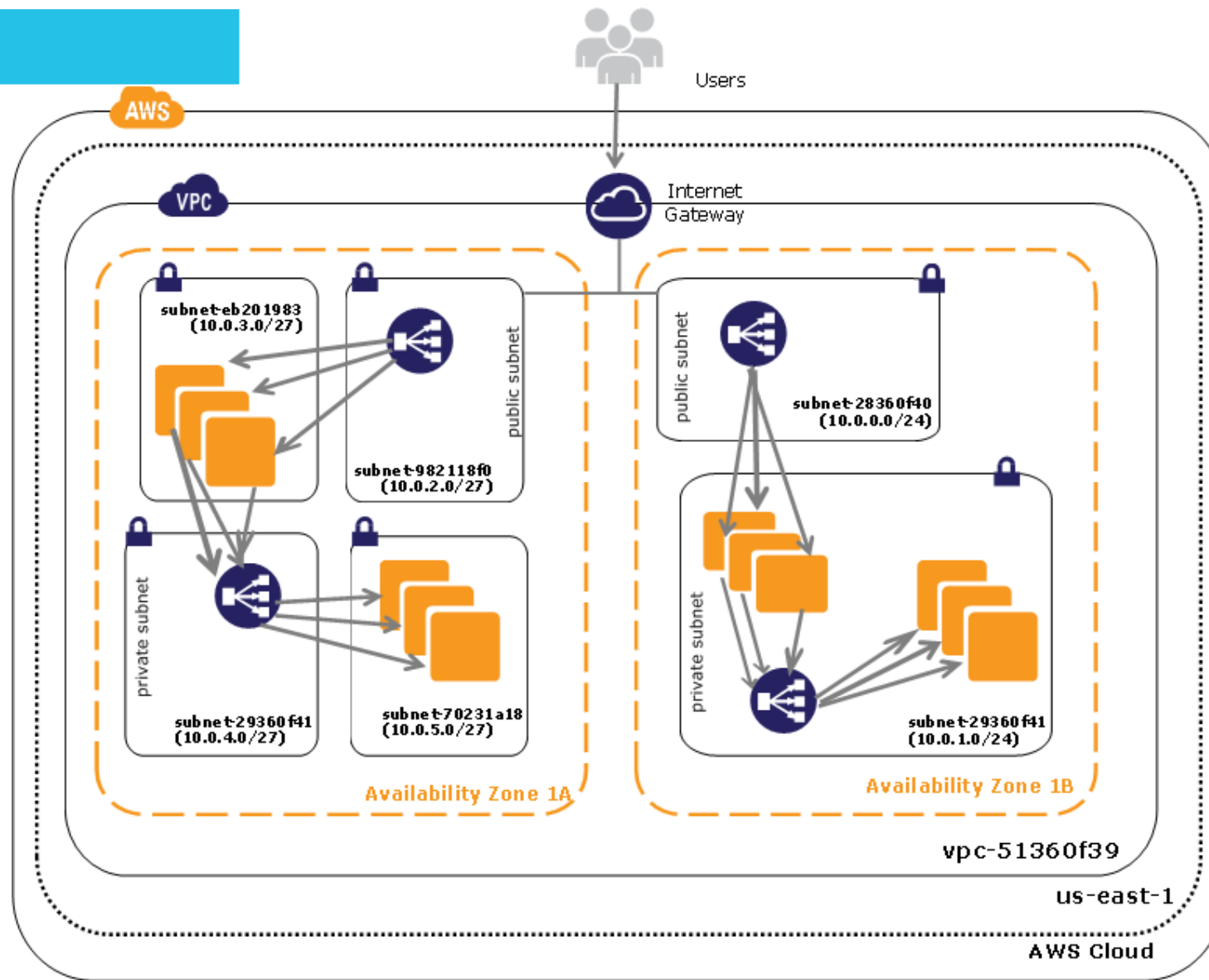
1 Backups Server – Ubuntu
– 5 TB (daily backups) –
R 50, 000
Off site Backups (monthly)

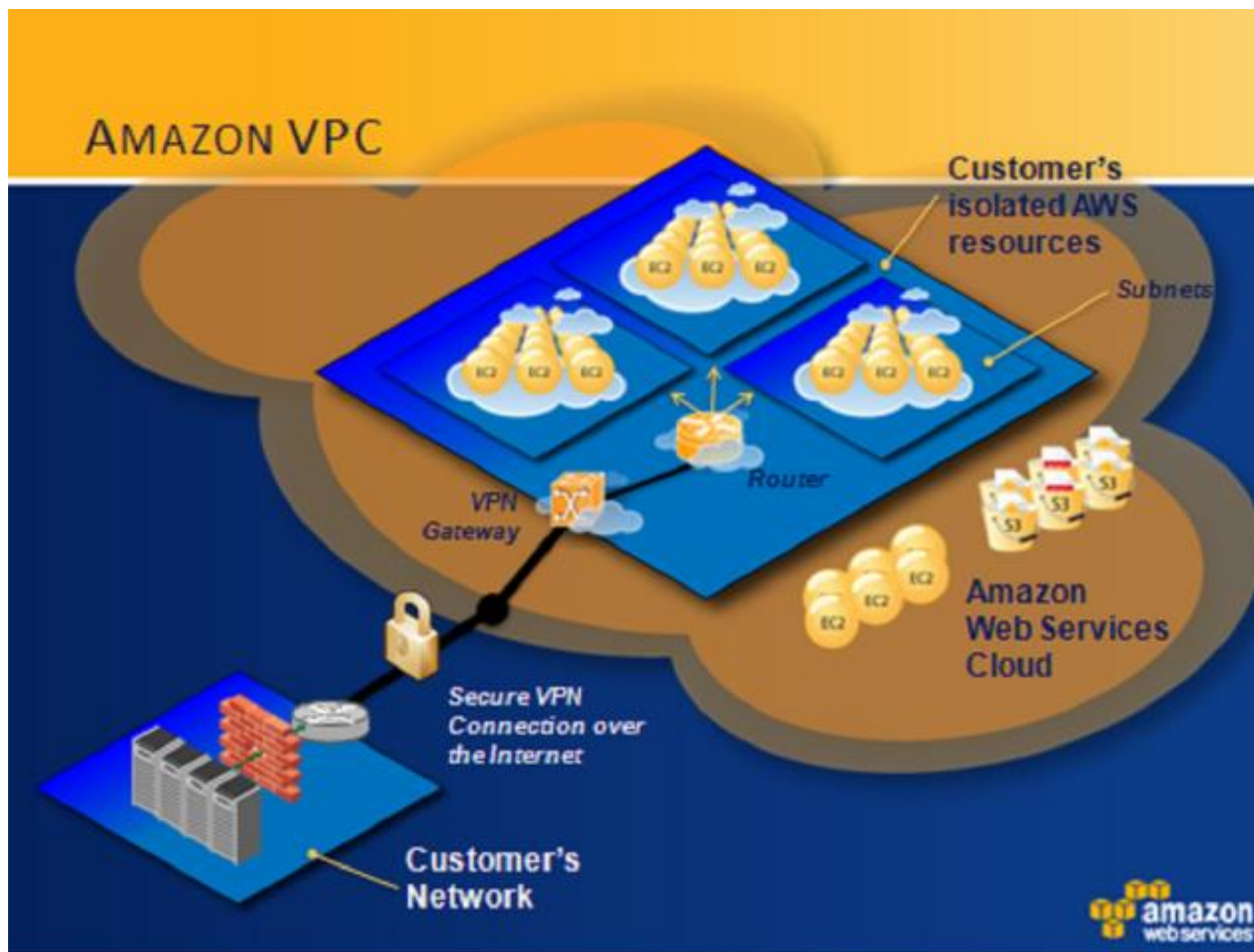
CASE STUDY

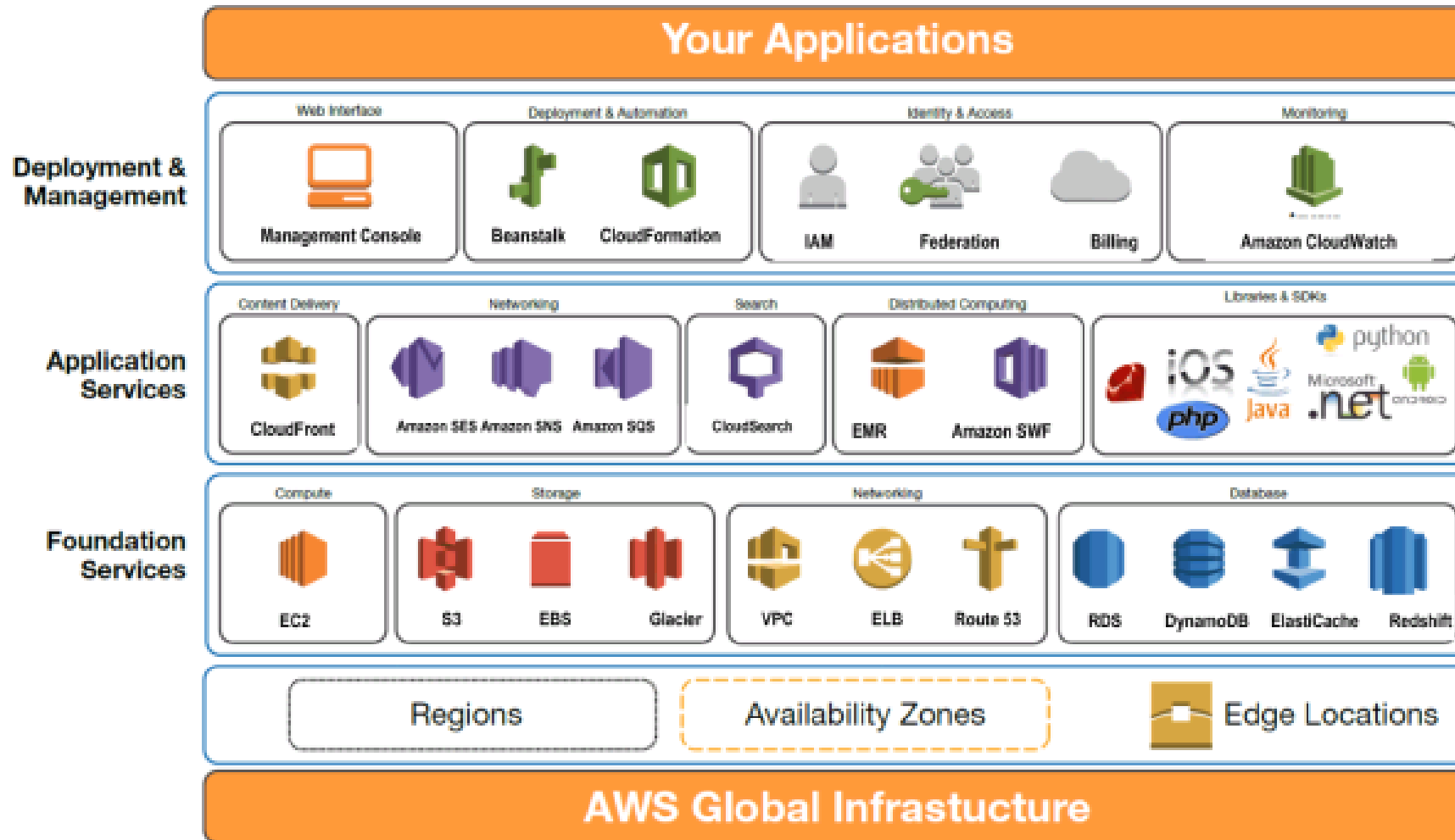
| | Monthly | Once Off |
|--------------------------|--------------|--------------------------------|
| Billing Software License | R 50, 000.00 | R 5 million |
| Vending Software License | R 50, 000.00 | R 5 million |
| CRM License | | R 1 million (upgrades extra) |
| SQL Server License | | R 1 million (upgrades extra) |
| Oracle License | | R 1,5 million (upgrades extra) |

- 1 X Network Staff – R 15, 000 monthly
- 2 X Monitoring and Maintenance Staff – R 30, 000 monthly
- Offsite Backup – R 5, 000.00
- Disaster Recovery Assurance – R 25, 000

VPC







ADVANTAGES

1. Unlimited Storage
2. More compute power
3. No Redundant Capacity – Elasticity
4. Redundancy
5. 99.9% Up time
6. Full Security
7. 0 Licenses
8. 0 Application Licenses
9. 0 Hardware Costs
10. 0 Staff to maintain
11. 0 Networking
12. 0 Depreciation
13. X100% speed
14. X100% performance
15. X100% capacity

| | ONSITE | CLOUD |
|-------------------|-----------------------|--------------|
| INFRASTRUCTURE | R 14 Million | R 0.00 |
| MONTHLY | R 200,000.00 | R 25, 000.00 |
| DISASTER RECOVERY | Hours to Days | Immediate |
| DEPRECIATION | 5 years | Nothing |
| STORAGE CAPACITY | 5 TB | Unlimited |
| PROCESSING POWER | 4 QUAD | 100 Quads |
| SECURITY COST | Thousands or Millions | R 0.00 |



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THANK YOU