Safeguarding Your IT Systems, Backing Up your Supply Chains: Insights from ICT Industry

Panelist
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Data Communications Business Group
Chunghwa Telecom
2013.08.05
1. Natural Disasters in Taiwan and SMBs Needs
   - Major Natural Disasters in Taiwan
   - SMBs Issues and Problems
2. BCP Successful Story and Solutions
   - Important Information Websites
   - Powerful Services (Cloud, IoT)
3. BCP Practices
4. Conclusions
Taiwan Major Natural Disaster: Typhoon

- Typhoon
- Torrential Rain
- Cold Damage
- Drought
- Hail
- Foehn
- Others

86%

10%

MTSAT 紅外線雲圖  8/9 16:00
Other Taiwan Disasters: Earthquake & Tsunami

- **Earthquake**
  - Most of the earthquakes detected in Taiwan are due to the convergence of the Philippine Sea plate and the Eurasian Plate to the east of the island.

- **Tsunami**
  - The scale of 8.0 earthquakes may occur here in Manila Trench and Ryukyu Trench.
SMBs Issues and Problems

Cost Control to Maximize Profit

IT Spending & HR Management

Reliable Communication & Security
Outline

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Critical Information Website

**Scenario**

- Natural Disaster Occurred
- Large HTTP Access
- Website Crashed
- Emergency Call Suspended

**Solution**

**Network Load Balance**

- User
- Load Balance Service: By hicloud
- VIP
- Internet
- DC #1
- DC #2
- CasS
- CasS
- CasS / VPC
- VPN Network

**Local Site Fault Tolerance**

- Network Layer
  - High Availability
- Virtualization Layer
  - Dynamic Resource Dispatch
  - High Availability
- Storage Layer
  - Active-Active

为了你 一直走在最前面 Always Ahead
Cloud Products to Help Business Continuity
Cloud Computing Definition

Cloud computing is a style of computing in which dynamically scalable and often virtualized resources are provided as a service over the Internet.

Users need not have knowledge of, expertise in, or control over the technology infrastructure in the “cloud” that supports them.

-- Wikipedia
Cloud Definition by NIST

Source: National Institute of Standards and Technology (NIST)
Cloud Technology to Help SMBs Solve IT Operational Problems

1. Significant increase in the workload of the abnormal
2. The demand of large data storage

- Redundant
- Auto-Repair
- SLA Availability > 99.99%
4 Centers 、1 Platform and 1 Mall

operation
Research
Testing
Experience
IoT (Internet of Things) Products to Help Business Adaptation
Ucam system introduction (千里眼)

1. Cloud storage
2. Keep nearest 15 days data
3. Video spec: 320 * 240 5fps
4. Notification of system outage

Internet site: ucam.hinet.net
Mobile site: ucam.hinet.net/3g

Installation site:
1.1 ~ 4 cams (provide for oneself)
2. Interface: BNC

Platform:

Remote Monitor:
iEN (intelligent energy saving cloud service)

System Structure

Service Platform

Controllers

Data collecting, analyzing, and operating

internet

Controlled devices

TRANE  YORK  Hitachi
Air Con., Chiller (HVAC)
Lighting control
Lighting
Power
Heat Pump & Boiler
Solar PV
Water-Saving
Sewage
Surveillance
Flood Alert (cross Check)

HiLink VPN

Camera

Disaster Prevention Center

Water Level Sensors
Fish Farms Detection System

Epinephelus lanceolatus (龍膽石斑)

Grouper Farming in Taiwan
- Value $116M / Year
- WW 58% Value (#1)
- WW 25% Production

Farmer

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Farmer
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BCP Practices

Disaster Recovery is partial process of BCM!

BCM (Business Continuity Management)

- Risk Management
- Knowledge Management
- Supply Chain Management
- Disaster Recovery
- Facilities Management
- Health & Safety
- Security
- Crisis Communications & PR
- Emergency Management
- Quality Management

Source: BS25999:2006
Business Continuity & Risk Management Process

Business Checking
- System Survey
- Operation Survey

BIA
(Business Impact Analysis)
- MTPD
(Maximum Tolerable Period of Disruption)
- RTO
(Recovery Time Object)

Impact Survey

Business Process Survey

BCP
(Business Continuity Plan)
- Schedule of Drill
- document SOP
- BCP practices

Risk Management
- Resource Checking
- Risk Assessment, RA
- Risk Treatment, RT
- Risk Treatment Plan, RTP
Defense-in-Depth and Overall Management Framework of Information Security

Information Security Management
- Regulatory compliance
  - ISO27001/ ISO20000
  - Personal Information Protection Act (latest version)
    (Information security policy, Regulatory, SOP, Employee awareness, Training, Auditing)

Service Management
- Information Security Monitoring (7 x 24)
- Log and Audit (Log collecting & managing platform)
- Periodic Vulnerability Assessment & Penetration Test

Information Security Protection Mechanism
- Endpoint & Network Security
  - Firewall
  - IPS
  - Antivirus
  - Anti-DDoS
  - Malicious IP Filtering
  - Application & VM Hypervisor Patch Update
- Data Access Security
  - Data & VM image Life-Cycle Management
  - Data Transfer Over Encrypted Tunnel
  - Service Access Control & Audit
  - Data Backup
  - Data Leakage Protection for Tenants’ Data
- Single-Tenant & Multi-Tenant VM Customers Remote Operation
  - Virtual Firewall
  - VM Isolation
  - Inter VM Monitoring & Protecting
  - VM Security Log Reserving and Monitoring
  - Tenant & Data Center Admin. Remote Operation Control
- Information Security Monitor & other Cloud Security
  - Cooperative Defense
  - Malicious Behavior Detection
  - Cloud Security Monitor, Analysis, & Ticketing system
  - Web Security Analysis
  - Information Security Training

Business Continuity & Disaster Recovery Plan
- Business Continuity Plan
- Local Data Backup
- Remote Backup
- Disaster Recovery Drill

CSA: Cloud Security Alliance
Robust Infrastructure and Multi-Routing Network
CHT Data Center Security

ISO27001 Certified Data Center

✓ Comprehensive data center Management System
✓ Provide various certifications for high-quality and professional services

Secure & Stable Environment

✓ Physical access controlled to ensure data security
✓ Monitoring power, A/C, security, fire control
✓ 24 hours video surveillance
International Submarine Cable Supporting System

Multi Route + Ring

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HiLink (MPLS VPN for Enterprise)

The Networked Readiness Index
2013 Rank 10

CL OUD READINESS INDEX
2012 Rank 5

Taipei
Taichung
Kaohsiung
Taipei#2

新竹
桃園
宜蘭
花蓮

苗栗
彰化
南投
雲林
嘉義
台南

桃園
台東
屏東
彰化
澎湖

宜蘭
花蓮
台東
屏東
彰化
澎湖

Gammon

WORLD ECONOMIC FORUM

The Networked Readiness Index
2013 Rank 10

Certified Internet Professional

as ia cloud computing association

Certified Internet Specialist
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How to Practice BCP with ICT

1. **Lease ICT services and assets** --
   Don't Buy Those Expensive facilities and try to build your own

2. **Apply BCP** with Cloud Technology and Practice Regularly

3. **Choose Reliable Cloud Service Provider**
   - Infrastructure build in anti-natural disaster locations
   - High network coverage
   - Full backup data center
   - Internationally acclaimed and certified provider
Conclusion

SUSTAINABLE INNOVATION ATTENTIVE LISTENING

中華電信

Innovation  Cloud Tech. Integrate  Cloud Service Operate Expert  Security Total Solution

Cloud BOSS  Project Management  DC Operating  Green Tech  Technology Transfer  Training
Value Creator for
Investors, Customers, Employees, and Society

Thank you!