

Be Prepared...

“Automated Network Recovery when Disaster Strikes”

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Introduction

We can't prevent disasters,
but can help ensure that organizations and
businesses
are better prepared...

Satellite used to automatically and rapidly
recover critical communications links...

Automatic Circuit Restoration
for Disaster Recovery and Business Continuity

Disaster Can Strike at Any Time

- External - Terrorist Threats (Sept 11, Bali bombing)
- Nature - Flood, Earthquake, Tsunami
- Utilities - Power Cut
- Resources - System, Hardware, Cable Failures
- Accidents - Fire & Explosions
- Evacuation/Quarantine - SARs & Virus Epidemic

What does disaster mean to your business?

- Loss of critical circuits
- Disrupted business services
- Upset customers – Lost customers!
- Loss of income
- Loss of emergency networks

Can you afford to let disaster affect you?

The Reality – Headlines!

- “Internet crashes in Pakistan”
 - *Telecom Asia, June 28, 2005 – “An undersea cable between Pakistan and the outside world has developed a serious fault, virtually crippling data feeds, including the Internet.”*
- “Pakistan's call centre hopes severed by cable fault”
 - *IndiaTimes, July 3, 2005 - Call centers lose US clients due to the service disruption causing "millions of dollars in losses and a lot of intangible damage" Call Centres Ass. Pakistan*
- “Faulty cable trips Pak's BPO dream”
 - *IndiaTimes, July 7, 2005*
- “Rat & contractor blamed for latest Telecom blackout”
 - *Two fiber cables cut causing outage of 5 hours. Stock exchange affected. New Zealand Herald, June 26, 2005*

Business Continuity is critical

- Call centres need 24 x 7 availability to maintain business
- Business Process Outsourcing (BPO) need a high availability to maintain their service level agreements
- A loss of communications for several hours in the banking community can result in several days of reconciliation

The Reality

- Constant threats to business infrastructure
- Many companies business operations today are electronic, e-Commerce, exchanging large data
- Most companies are highly dependent on communications networks
- Loss of the network has a detrimental affect on your business operation and your customers!

The last few years have proven that disaster can affect anyone, at any time.

Satellite for Disaster Recovery

- Natural & unique advantages
 - Not affected by terrestrial disturbances
 - Wide coverage area
- Manual setup
 - 30 mins to several hours (with satellite equipment in place)
- Continuously provisioned
 - Rapid, but expensive (largest telcos only)
- Automated - bandwidth on demand
 - < 30 seconds, pay for bandwidth when needed

Automated Disaster Recovery Service Principles

- A 'pool' of satellite bandwidth is made available for recovery
 - Bandwidth pool can serve many geographically separate circuits
 - Not all customers will suffer primary circuit failures at the same time
- Bandwidth is made available when needed
- Service costs a fraction of full-time bandwidth cost
 - Like an insurance policy 'premium'
 - Bandwidth paid for as used

An Automatic Disaster Recovery Service

- Assists customers recover rapidly & automatically when disaster strikes
- Tailored to Customer's needs
 - According to bandwidth requirement
 - From customer's premises (satellite dish on the rooftop)
 - Recover your communications while your competitors are without service!
- To keep your business going without disruption

Example: SingTel's Automatic Disaster Recovery Service

- A cost-effective satellite backup solution to protect customers' critical circuits
- Between any customer location
 - Within a country or between countries, within satellite footprint
- At any bandwidth from 64 kbps onwards
- Automatic activation – within seconds
- Managed by SingTel's Network Management hub

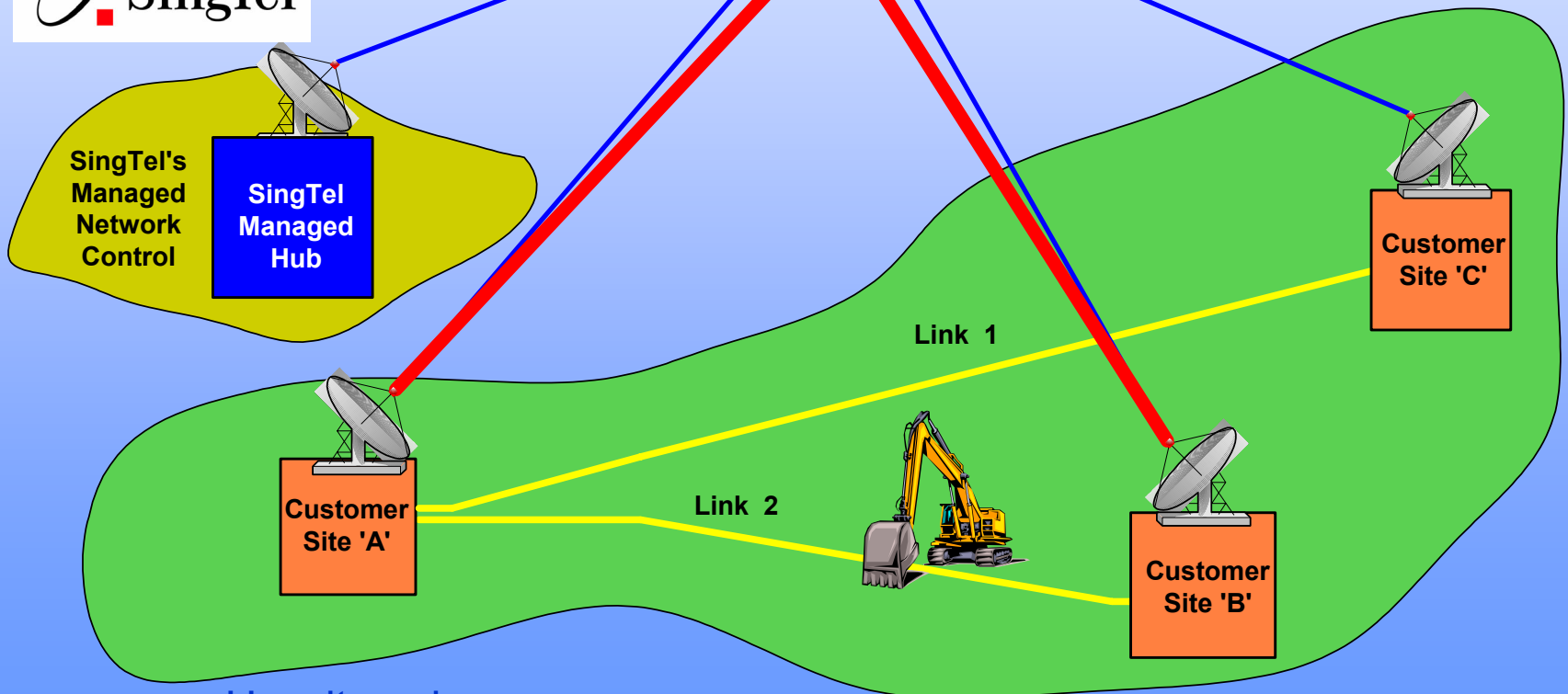
Actively monitoring customer's primary circuits for interruption, the service automatically establishes a satellite link when required

Automated Recovery

— Backup Link
— Terrestrial Link
— Management



Disaster Recovery Mode
Automatic Circuit
Recovery between 2
Points when any
terrestrial circuit is cut

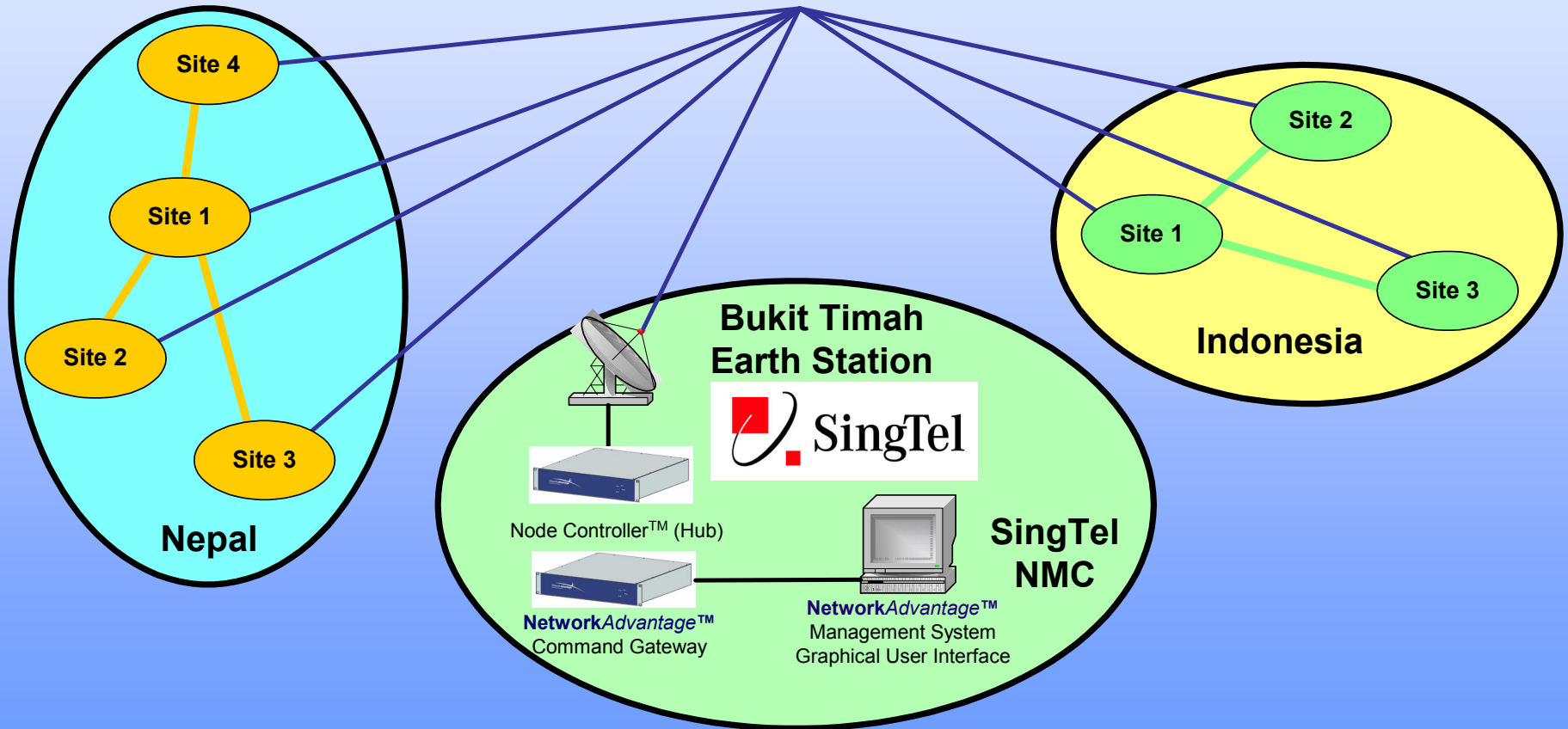


How it works

Management from Singapore

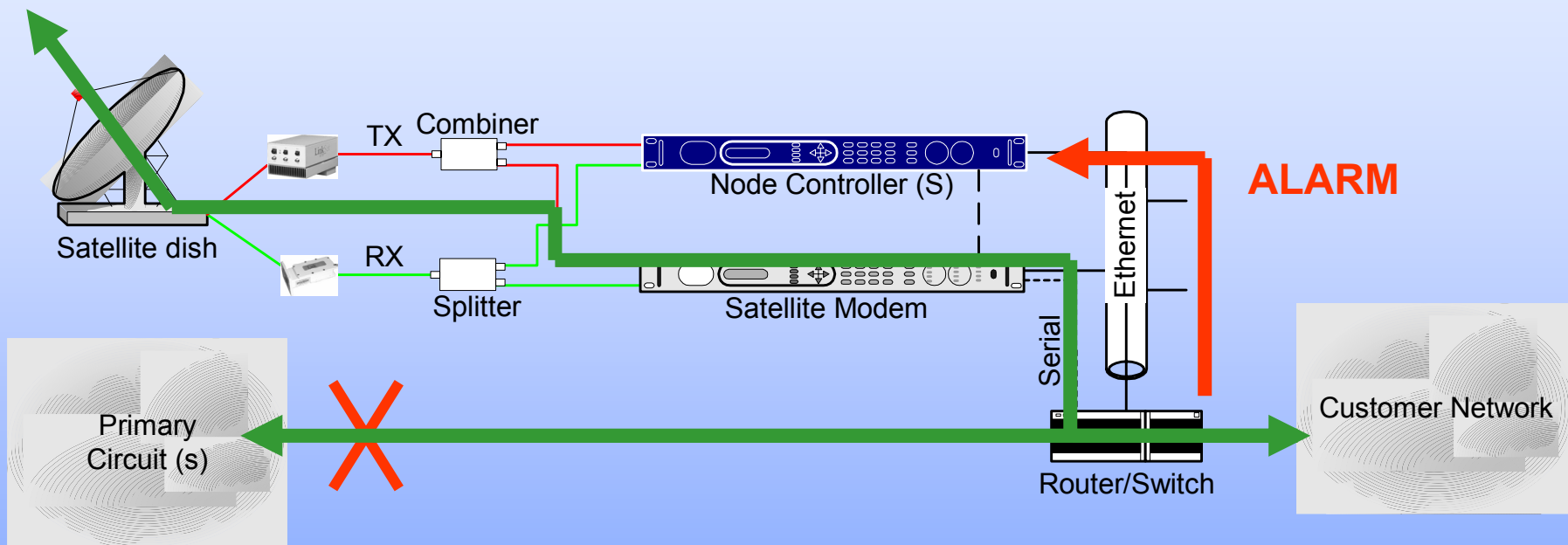


ST 1 Satellite



SingTel Operations Centre continuously monitoring remote customer sites

At Customer Premises



When there is a failure of the primary circuit an alarm is generated in the Router/Switch.

Node Controller detects alarm (SNMP trap) and requests satellite link.

When the primary circuit is restored, the satellite link is taken down.

Who needs this?

- Service Providers – Call Centres, BPO, ISPs
- Telco Carriers - International & Local fibre operators
- Financial - Banks, stock broking, insurance, commodities trading
- Multi-National Corporations - High tech, factories
- Government - Ministries and Government Agencies
- Medical - Bio-science, R&D, Hospital

Any enterprise or organization who rely on mission-critical communications!

Benefits

- Assurance of seamless & rapid recovery of communications
 - High availability network for Emergency Recovery and Business Continuity
- Low cost service
 - Due to bandwidth sharing
- Integrates within customer's existing network
- Managed service
- Supports bandwidth of 64 kbps to >45 Mbps
- Non-intrusive network control
 - Customer's data traffic does not pass through control hub
 - Ensuring customer data integrity & sovereignty

Conclusion

- Disaster can strike at any time
 - Seriously affecting business & livelihood
- Satellite is free from terrestrial interference
- Automated & Rapid Recovery technology and service is available
- Cost-effective insurance against Disaster

You need to ...Be Prepared !