



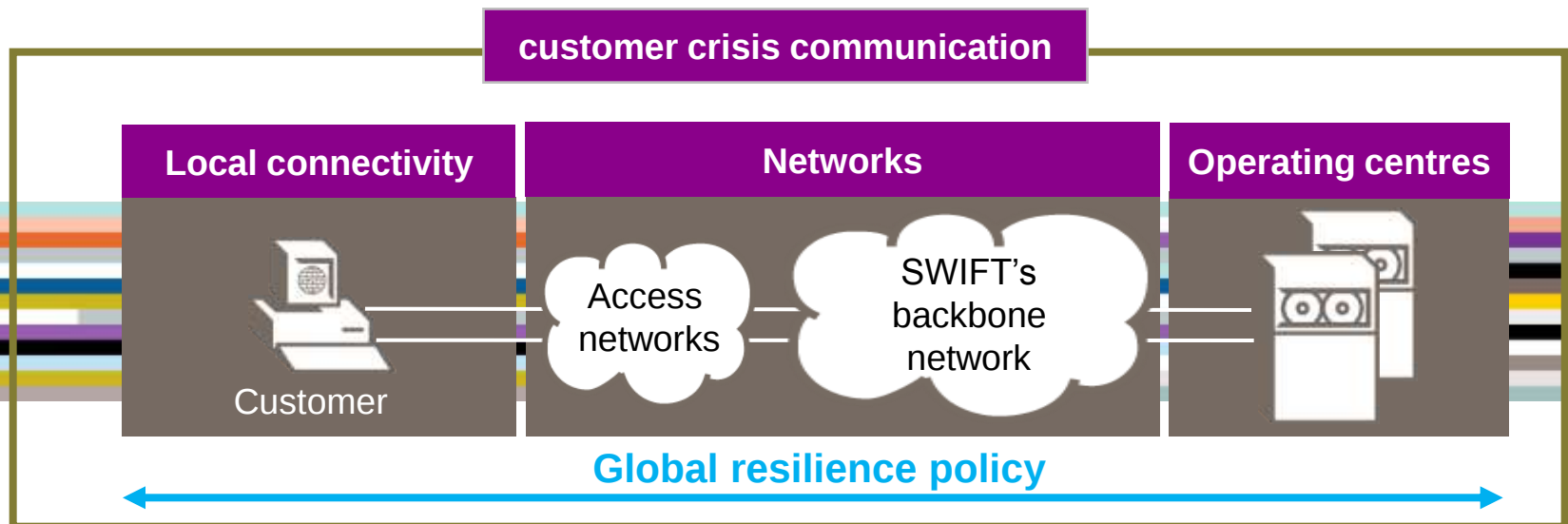
SWIFT's resilience evolution

Harry Newman

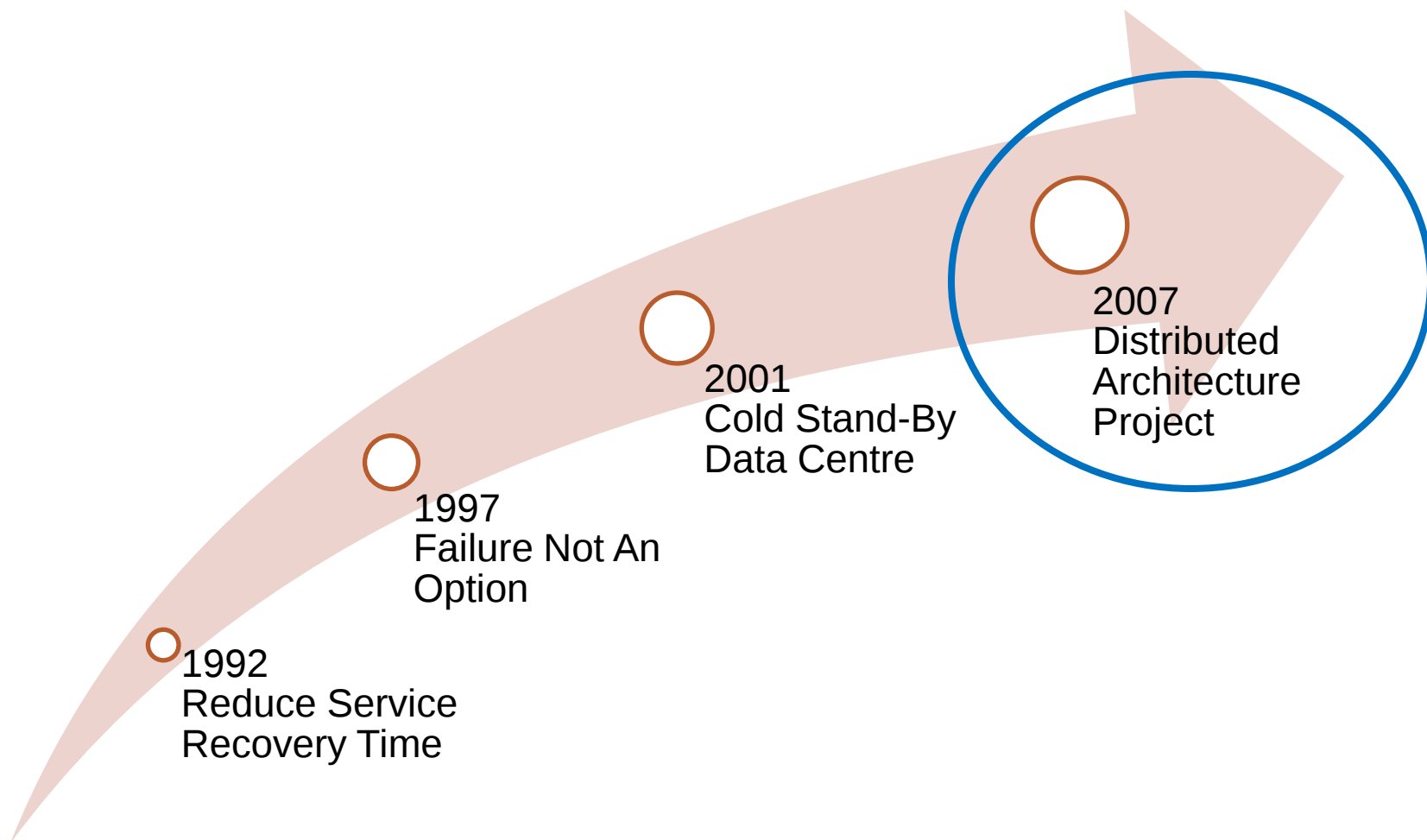
16 March 2011

SWIFT: built-in resilience

- Broad range of resilient client connectivity packages
- Managed and fully redundant networks
- Multiple operating and customer support centres on different continents
- BCP plans across all operations, tested & audited
- Company culture: 'Failure is not an option'
- Cross market business coordination



SWIFT's built-in resilience: Key Programs

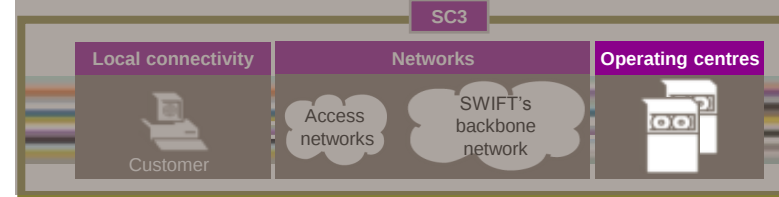


What is the distributed architecture program?



SWIFTNet resilience

Distributed Architecture enhancements



Layer 1 (local recovery)

Day to day resiliency; multiple connections; protected sites; built-in backup within OPCs

Enhancement

Strong local resilience with OPC and DRI site improvements

Layer 2 (single site failure)

Intercontinental OPC recovery in 4 hours; recovery of application layer in 30 minutes if layer 1 fails

Enhancement

Global-OPC concept; recovery of application layer in 20-30 minutes; single site failure in one zone does not affect healthy zone

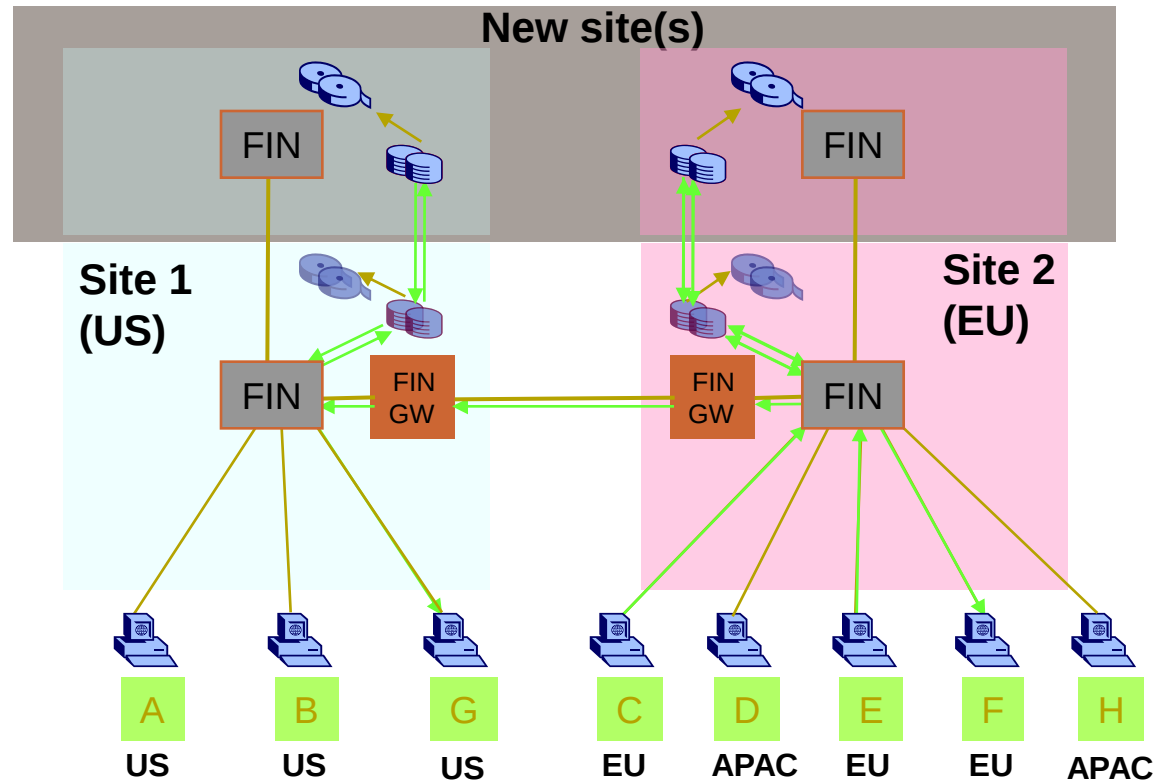
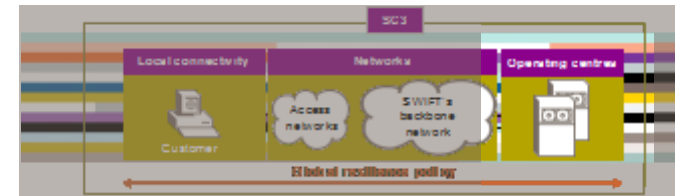
Layer 3 (dual site failure)

Disaster Recovery Infrastructure for extreme case where layer 2 is not enough

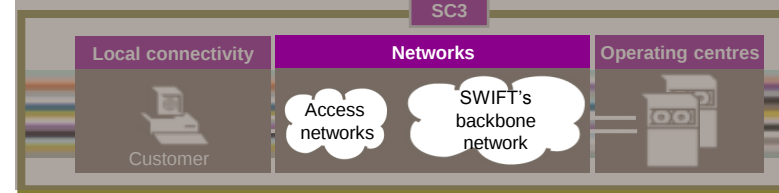
Enhancement

DRI not always needed for dual-OPC failure scenario;
New: cold-start for one zone with no message loss for the healthy zone

Distributed architecture



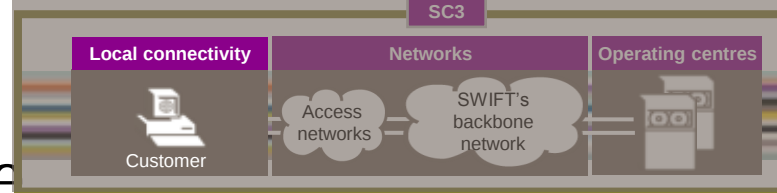
Network resilience



- Multi-vendor IP network managed by SWIFT
- Risk spread across multiple network partners
 - AT&T, BT Infonet, COLT, Orange Business Services for permanent line connections
 - Internet based connections (best effort) for Bronze connections and Alliance Lite
- Dynamic routing across networks
- High diversification down to physical infrastructure
- High security and high reliability
- Global reach
- 24x7 monitoring

Customers should use multiple network partners where available

Helping customer resilience



- Multiple connectivity options, from bronze (Internet-based) to gold (2 permanent lines)
- Our recommendations:
 - Have diversified connections (major users)
 - Fallback connectivity testing
 - Foresee a disaster site
 - Yearly health-checks (on demand or included in support)
 - Participation in community tests (OPC recovery, Cold Start)
 - Use Delivery Notification for critical transactions
- Next customer community tests
 - Cold Start test in April 2011
 - Global OPC recovery test in October 2011

Helping MI Resilience



Threats

Physical damage
Natural events
Loss of essential services
Technical failures
Bomb/Terrorism
Unauthorised Actions
Compromise of functions

Can last for days, weeks, months

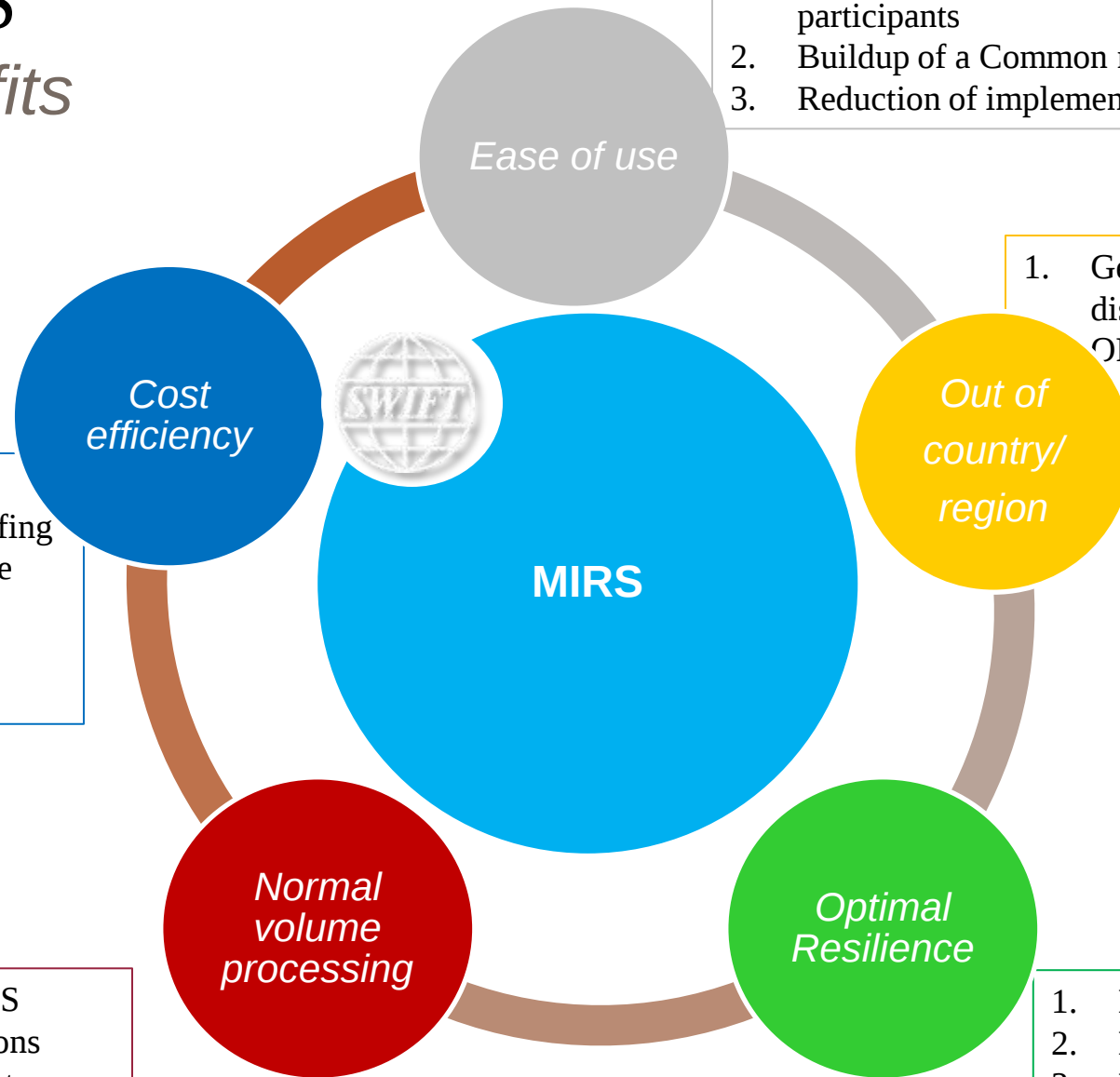
SWIFT proposed offering

Market Infrastructure Resiliency Service

- MIRS allows business continuity for an RTGS for catastrophic outages
- A standardised RTGS using SWIFT messaging providing geographic, staff and software diversity
- Straightforward for users – normal message flow is maintained
- The RTGS will business manage the operations
- SWIFT will technically manage the system on their behalf

MIRS

Benefits



1. Limited impact on SWIFT-enabled participants
2. Buildup of a Common market practice
3. Reduction of implementation risk

1. Geographically distant in SWIFT OPCs

1. No need for MI building and staffing
2. Economy of scale
3. No impact on SWIFT-Enabled Participants

- Standardised RTGS
1. All transactions
 2. All participants

1. Different hardware
2. Different software
3. Different release cycle
4. Different operations
5. Different staff





Thank you