

## Business Continuity and DR Solutions

*Automated Logging with Application, Hardware, Network and WAN Failover to Keep Your Enterprise Running*

### The Business Imperatives

As enterprises increasingly depend on critical applications that must be available continuously without any downtime, the ability to recover quickly and seamlessly from an outage or disaster is vital to maintaining a seamless operation and reputation.

However, Gartner Group has estimated that less than 25% of enterprises have comprehensive business continuity programs and just 50% have comprehensive disaster recovery programs. On average, downtime can cost an organization between \$2,500 and \$10,000 per minute according to the Standish Group, a leading research firm.

Corente's Virtual Services Exchange (VSE) provides enterprises with an automated infrastructure for administration, management and monitoring to help prevent, detect and recover from unplanned outages quickly.

### Business Requirements

Developing a business continuity and disaster recovery program can be a challenge given today's complex, distributed and heterogeneous computing environments.

Among the most critical needs to be addressed are:

- **Intelligence**  
Provide early warning of potential security or performance problems.
- **Speed**  
Recovery times are no longer measured in hours. For many real-time enterprises, continuous 24 x 7 x 365 availability is an absolute requirement.
- **Security**  
A recovery scenario must maintain the same high level of security as standard operations, even with alternate infrastructures and physical locations in use.

- **Flexibility**  
Support for hot standby, mirroring, shadowing, electronic journaling and vaulting is required, as well as standard recovery modes—all within the same solution.
- **Pre-defined plans and policies**  
A key to recovery planning is the ability to execute according to a pre-defined plan, even in the midst of a disruption.
- **Recovery for data centers, remote workers and business partners**  
Recovery means more than just data centers. It also should include support for telecommuters (with no loss of functionality and access) and for business partners working with critical transactions and information.
- **Prioritization of application support and recovery**  
After an outage, critical applications such as finance and customer support need to be given top priority for restoration and for access to resources that may be in short supply during the recovery process.
- **Interoperability**  
The solution must work with third-party providers without security or performance compromises.
- **Management of complexity**  
With multiple networks and service providers, address conflicts are almost inevitable and may become unmanageable during disaster recovery situations when resources change or become unavailable.
- **Visibility**  
The solution must provide real-time information and historical records on network status, including alerts on failures or capacity reductions.

### Corente Benefits

- Provides automatic, real-time failover of application, hardware, network or WAN connectivity
- Preserves engineered security policies during transfer of operations to backup locations, including third party locations
- Operates across any combination of router, network and access infrastructure
- Prioritizes and pre-defines transfers based on needs, restoration priorities and networking capacities
- Defines fine-grained policies at the specific application and user level
- Offers flexible support for both data center and business work space recovery
- Ensures automatic restoration to primary service when services are restored
- Sends real-time early warnings for service performance degradation
- Constantly monitors the backup/recovery network during normal operations, confirming readiness

## Corente's Unique Capabilities

### Automated Hardware Failover

Automated hardware failover provides any site with backup in the event of a server hardware failure of the site's Virtual Services. To provide this, two servers loaded with the VSG software are installed on the LAN. These servers function alternately as the *Active* Gateway and the *Standby* Gateway. The *Active* and *Standby* Gateways function as a single entity. Only one is *Active* at any given time. To the Corente Service and all other gateways in the network, the *Active* and *Standby* Gateways appear as a single gateway, with a single set of IP and MAC addresses. All administrative changes made in the Application Manager will be made to both gateways, and all changes made in Gateway Viewer will be automatically replicated to both gateways as well.

If the gateway that is currently *Active* fails, the *Standby* Gateway will take over its IP and MAC addresses. When this occurs, the *Standby* Gateway becomes the *Active* Gateway; no routing changes occur or need to be configured. Any active connections will drop upon failure, but will be automatically re-established between the newly active gateway and the site's partners.

### Automated WAN Failover

The Dual WAN feature allows customers to set up WAN failover for a Virtual Services Gateway from a primary WAN connection to a secondary WAN connection, to ensure continued access to the secure Corente network and Internet in the event of a service provider failure. The gateway determines if there is an outage of the primary WAN if it loses contact with both its partners and the Corente VSE and cannot re-establish contact. After failover, the gateway will continue to test the primary connection until it is operational, and will then automatically failback.

### Automated Traffic Failover

Traffic failover provides backup connectivity for each application and site-to-site connection within the Corente network, or for a private company backbone (frame relay, ATM, private line, etc.). If connectivity is lost, users can continue to access necessary corporate resources through the backup connection. Traffic failover can prevent a catastrophic outage of the entire Corente network if that site were to fail, by automatically failing over to a mirror site or to another type of connection that allows remote sites to reach the necessary applications or subnets.

#### Logical Traffic Management

- Identifies and manages traffic flows at the application and user levels
- Flexibly handles failover scenarios at sites, for links and for hardware
- Remaps virtual network to changed physical network dynamically and automatically
- Automatically assures high availability without manual intervention
- Works end-to-end automatically

#### User-Specific, Comprehensive Permission Control

- Traffic permitted between specified device, servers and applications, at user level
- Bi-directional or unidirectional session initiation control
- Stateful inspection of all traffic
- Policies enforced by both sides
- Each Virtual Services Gateway can independently participate in many policies

#### Federated Security (for Third-Party recovery sites)

- Each partner controls their (local) end
- Only mutually agreed upon traffic exchanged
- Partners cannot override the other's security policies
- No additional firewalls required
- No visibility into the other partner's network
- Security does not depend on the physical or logical integrity of the remote device

#### Address Protection and Resolution

- Virtual Services Gateways automatically detect address conflicts
- Incoming and outgoing packets are mapped to non-conflicting addresses
- Conflicts are addressed pairwise; no global solution is necessary
- Conflicting partners do not need to know about conflicts

### About Corente

Corente enables the enterprise to have full control and optimization of their services delivery networks regardless of the underlying public and/or private IP network. The Corente Virtual Services Exchange is an integrated, scalable, multi-tenant suite of services that secure and simplify the delivery and management of applications and services to the extended enterprise. Corente's services management, fine grained control, and automated policy configuration based on service definitions are used globally by enterprises in over 63 countries to dramatically improve price performance and transform their IP networks into IT service exchanges.



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