



SOLUTIONS BRIEF

MAXIMIZE ROI FOR GOOGLE CLOUD WITH SURELINE SUREedge®

SUREedge delivers compelling value to Google Cloud users with Migration and DR solutions

AT A GLANCE

Google Cloud provides a highly redundant global network combined with secure, cutting-edge computer science, managed services, developer tools, and ready-to-use platforms, making it an ideal service for enterprises to build and deploy a hybrid-IT infrastructure. With Google Cloud, organizations can build and host applications and websites, store data, and analyze data on Google's scalable infrastructure. Sureline minimizes time to production and maximizes return on investment (ROI) for Google Cloud users by providing compelling value through enhanced and certified solutions for:

- Efficient, secure, fast and reliable migration of production applications and data to Google Cloud from any physical or virtual system
- WAN-optimized Disaster Recovery (DR) to Google Cloud from any platform with customized RPO (Recovery Point Objective) and RTO (Recovery Time Objective)

SOLUTION BENEFITS

- Engineered transformation processes from client's production environment to Google Cloud reduce migration time, minimizing time to production use of Google Cloud with no downtime of production environment
- Trusted migration and DR solutions certified under the Google Cloud Partner Program
- Option to quickly seed large amounts of data (100+ TBs) to initiate migration and DR via secure and transportable hardware appliance

Sureline offers Google Cloud Partner Program certified solutions:

- SUREedge Migrator offers Google Cloud users rapid migration of any workload from physical or virtual systems into Google Cloud
- SUREedge DR uses Google Cloud as a DR site with customized RTO and RPO



APPLICATION MIGRATION PROCESS

After a data center manager subscribes to Google Cloud, the next step is to determine how to move applications from the current platform to Google Cloud. Migrating to Google Cloud from on-premises (on-prem) or other clouds requires the following steps for a timely, efficient, reliable, and secure migration without disrupting the production environment:

1. Building migration plans
2. Capturing data and system image(s)
3. Replication to Google Cloud
4. Transforming images to Google Cloud format using engineered processes
5. Testing
6. Final incremental updates
7. Cut-over to Google Cloud

SUREedge Migrator from Sureline provides an end-to-end solution to plan, automate, and execute these steps to successfully migrate 10s to 1000s of applications and servers to Google Cloud with confidence. Fastest migration, coupled with little operational costs, ensures a higher ROI for Google Cloud.

SUREedge ARCHITECTURE

SUREedge Migrator is designed to provide the quickest time to production and the least operational disruption for migrations to Google Cloud. The SUREedge architecture includes the following standard product features:

- Agentless solution for ease of installation
- LAN and WAN throttling with ultra bandwidth friendly algorithms
- Automated transformations with data integrity verification
- Supports all cloud, hypervisor and hardware as the source with customized support for migrating to Google Cloud
- Snapshot-based, filesystem-based block-level hybrid capture process
- Fully automated process for moving 100s or 1000s of applications with full confidence
- Advanced point-to-point security with military grade encryption of data in transit and at rest
- Bi-direction, active-active, global deduplication and compression, minimizing the amount of data migrated and replicated

MIGRATING TO GOOGLE CLOUD WITH SUREedge MIGRATOR

There are two main use cases where fast and secure migration to Google Cloud is required:

- Migrating from on-prem infrastructure to Google Cloud
- Migrating from another cloud solution to Google Cloud

For any Google Cloud migration use case, SUREedge Sunshine can migrate large amounts of data via a secure transportable hardware appliance for initial data seeding to Google Cloud Storage (GCS). This is then followed by secure incremental updates over the WAN.

1. Migration From On-Prem to Google Cloud:

Enterprises typically have a heterogeneous environment running applications on physical and virtual systems with different hypervisors and data stored on SAN, NAS, and DAS platforms. Google Cloud is built upon a Google-specific hypervisor and underlying infrastructure. Any workload running on Google Cloud must adhere to Google Cloud standards. Thus, migrating workloads from on-prem to Google Cloud not only requires moving data and applications, but also converting the system interfaces so that they are compatible with the Google Cloud environment.

SUREedge Migrator from Sureline simplifies and accelerates migration to Google Cloud from any source with customized engineered processes. By automating and providing a workflow for planning, capturing, and replicating in a secure (encrypted) bandwidth-friendly manner, SUREedge Migrator manages conversion to the Google Cloud format and recovery at Google Cloud with the fastest time to production.

2. Migration From any Cloud to Google Cloud:

For enterprises transitioning from their current Cloud to Google Cloud, SUREedge Migrator enables fast migration of workloads from their current Cloud provider to Google Cloud. By using engineered processes to minimize the data movement and transformation time, Sureline reduces overall migration time.

GOOGLE CLOUD DR WITH SUREEdge DR

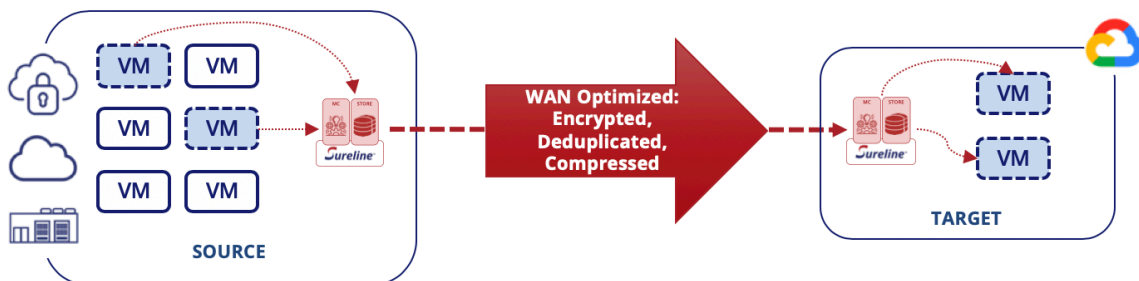
SUREEdge DR and Google Cloud together offer a very cost effective DR solution for enterprises, allowing them to take true advantage of the Cloud by using and paying for only what they need and use. SUREEdge DR is a certified solution for DR to Google Cloud, delivering WAN-optimized, active-active, bi-directional replication with global deduplication, compression, and encryption for business continuity. SUREEdge does not require hot standby recovered systems in Google Cloud for DR, and still provides aggressive RPO and RTO, thus minimizing the costs of operations.

SUREEdge Sunshine is also available to initially seed large amounts of data via a secure transportable hardware appliance to GCS, followed by secure incremental updates over the WAN.

HOW MIGRATION TO GOOGLE CLOUD WORKS

As shown in Figure 1, SUREEdge Migrator is installed on the source site - on-prem or current Cloud - and on the target Google Cloud site. The source site instance captures, deduplicates, and replicates applications and data, while the instance on Google Cloud acts as the receiver and recovery manager. Using the user friendly SUREEdge Migrator GUI, users enter the systems, physical and/or virtual machines (VMs) to be migrated, and then build plans to move the systems in groups. Once the plans are defined, users then execute the plans with a click of a button.

As a part of the migration planning, users can set server consistency groups, different IP addresses, vCPU, RAM, vLAN, licenses, and change and customize system applications, such as anti-virus, performance monitoring, etc., during the migration process. Furthermore, SUREEdge Migrator can incrementally capture and update system images and data, allowing users to migrate, test and retest, apply a final incremental update and cut over with minimal downtime.



- SUREEdge instance at source and GCP
- Agentless application-aware capture from virtual or physical. Simply install to VMs

- SUREEdge deployed via GCP Marketplace
- Recover for testing as needed

Figure 1. Capture any system image and transform to Google Cloud with SUREEdge Migrator

HOW DR TO GOOGLE CLOUD WORKS

As shown in Figure 2, SUREedge DR to Google Cloud requires an instance each of SUREedge DR on-prem and on Google Cloud. The on-prem instance captures, deduplicates, compresses, encrypts, and replicates applications and data, while the SUREedge instance in Google Cloud acts as the receiver and coordinates system instantiation for failover and testing.

Once the SUREedge instances are up and running, the user adds a list of systems, physical or virtual, that need DR protection. Users then create plans that define the desired RPO, RTO and retention policies. Users can also define consistency of recovery groups; set different IP addresses, vCPU, and RAM, vLAN, licenses; and change and customize system applications, such as anti-virus, performance monitoring, etc., while recovering, if needed.

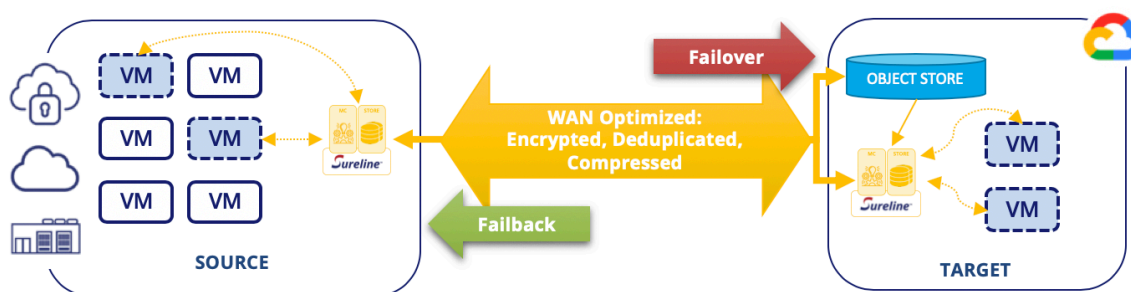
Depending on desired RTO, SUREedge will maintain an:

- a. **Instant Recovery Copy:** These are pre-built, ready-to-boot, VM images with the most recent updates available for Instant Recovery. The RTO for these systems are at the click of a button.

- b. **On-Demand Copy:** These are VM images kept in deduplicated and encrypted storage only, to reduce storage and compute consumption. The VMs will be created upon DR initiation. The RTO for these systems can vary from a few minutes to a few hours depending upon the size of the VM and associated data. This is a cost effective solution for systems that do not have stringent RTOs.

- c. **Storage-direct Replication:** Rather than transferring images from the source to an in-cloud DR instance, data is stored directly in Google object storage. While this adds a step of bringing up a SUREedge DR instance to the recovery process, it eliminates ongoing CPU and memory usage expenses, further reducing overall solution costs. This is the most cost effective solution for systems that do not have stringent RTOs.

Additionally, SUREedge allows users to recover in a DR test sandbox network, thus enabling DR testing without any disruption to the production environment.



- SUREedge instance at source and GCP
- Agentless application-aware capture from virtual or physical. Simply install to VMs

- On Demand SUREedge instance in Cloud installed from GCP Marketplace
- Recover for testing as needed

Figure 2. SUREedge DR to Google Cloud offers customized RTO and RPO

ARCHIVE TO GOOGLE CLOUD WITH SUREedge DR

SUREedge DR can also be used for archive recovery. SUREedge DR allows users to set flexible retention policies for all copies of data and allows recovery from any copy.

CONCLUSION

For enterprises that subscribe to Google Cloud for their hybrid-IT environment, Sureline plays a critical role in the successful migration of their applications and data to production in Google Cloud, increasing ROI. SUREedge Migrator provides a certified solution for efficient, secure, and reliable transformation of all applications and data from the current environment to Google Cloud. For organizations utilizing Google Cloud as the DR target, SUREedge DR ensures point-in-time recovery and business continuity for applications by replicating to Google Cloud. For initially seeding the target migration or DR site with large amounts of data (100+ TB), SUREedge Sunshine offers an efficient and secure solution. With engineered transformation processes for Google Cloud, Sureline provides enterprise-strength solutions for accelerating the ROI of a Google Cloud-powered enterprise.

ABOUT SURELINE SYSTEMS

Sureline Systems enables business agility, productivity, and with cloud migration and disaster recovery of any virtual, physical, or containerized application or server at the push of a button. Sureline's patented, award winning SUREedge® enterprise-class software solutions deliver application mobility that is secure, reliable and efficient and is key to enabling transitions to the cloud, new infrastructures and a myriad of other transformative architectures. Sureline partners with industry leaders including Alibaba Cloud, Google Cloud Platform, Oracle, Nutanix, and AWS. Sureline is headquartered in San Jose, CA, and its products and services are available through a global network of VARs and technology service providers.

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