

CGI SiteReliability360 is an unified platform to increase reliability to drive user experience innovation, improve speed and agility, and reduce costs.

## Site Reliability Platform for the Digital Enterprise

CGI SiteReliability360 is a hybrid IT management platform that enables reliability through high-availability deployments across any underlying private or public clouds. The platform also provides continuous monitoring of these deployments to achieve service level objectives (SLO), cognitive automated operations management to scale as required, and auto healing when anomalies are identified. It comes with a robust multi-tenant governance layer to manage role-based access, provide holistic telemetry, track utilization and keep costs in check.

CGI SiteReliability360 is built on the tenets of site reliability engineering (SRE), the platform empowers site reliability engineers and DevOps teams, while simplifying the underlying complexity of the hybrid IT infrastructure.

Our platform aggregates private/public cloud services or use virtualization templates as building-block components for application and infrastructure designs. Create complex service designs to run on any cloud with the interactive designer using pre-defined packs for containers, VMs, databases, networking, and middleware. It orchestrates any process or automation tool with our home-grown powerful orchestrator and content library. Design 'pick-choose' or 'infrastructure as code' orchestration flows to orchestrate automation tools, integrate with any vendor technology, or automate any task in the datacentre on applications and infrastructure. We use GOCD as the integrated CI/CD Application Release Automation pipeline to continuously deliver applications and infrastructure with customizable stage gate actions such as approvals, security scans, execution of scripts, or deployment of infrastructure. Define any service design to the hybrid cloud customer to manage their services under one single pane of glass.



## Key Use Cases

- **Hybrid IT Management**  
Enables hybrid cloud management and support IT services across any environment.
- **Service Automation & IT Orchestration**  
Integrated all domain and functionality tools into various automation layers to have unified interface for all workflows.
- **DevOps & DevSecOps**  
Facilitates seamless DevOps, supporting quick and reliable building, testing, and application releases, while integrating security practices into every step of the process to safely distribute security decisions at speed and scale.
- **Deployment innovation**  
Flexibility to create reliable cloud-agnostic deployments of applications on any underlying cloud, in high-availability mode and the platform follows TOSCA.

## Key Features

### **Decoupling of application blueprints from underlying infrastructure environments**

Provides a cloud-agnostic visual blueprint of the platform such as web servers, application servers and log servers, databases, etc., to perform the provisioning and configuration of the entire application stack across any private or public cloud.

### **Deployment innovation**

Flexibility to create reliable cloud-agnostic. Deployments of applications on any underlying cloud, in high-availability mode, without a single line of script. The platform follows TOSCA standards.

### **Precise CMDB mapping**

Enables quicker problem isolation by using an in-built service modelling mapped in the configuration database to maintain updated records. This helps the automation last mile handlers to trigger right set of scripts to perform the auto-healing. The service modelling also helps us to identify the impacts in the services, so the service owners can take informed decisions. The CMDB is updated on the regular basis, it can be exported to external source and also to synchronize customer's DMDB.

### **Event management and automation**

Event management module aggregates and manages events from multiple event sources into a single management console by filtering, deduplication, and correlation of events. It helps to reduce manual effort and interventions by automating identified service requests and enabling self-healing by automating standard operating procedures.

It is a full-suite automation solution that combines robotic process automation with heuristic and adaptive automation, and machine learning to complement and augment human capabilities across infrastructure, application and business process services.

### **Auto-scale, auto-heal and auto-replace**

Generates "right-sizing" reports that recommend scaling of computes, automatically heals managed objects identified as "unhealthy" and automatically replaces unhealthy components after multiple auto-heal attempts fail to resolve the issue. The auto-scale, auto-heal and auto-replace happens cognitively based on the metrics that are collected by our native built-in monitoring system. Auto-scaling is mostly performed in on premise, virtualized and private clouds.

### **Business and IT process automation**

Uses run book automation workflows to automate repetitive and mundane processes to reduce "toil" and applies cognitively triggered custom last mile handlers or workflows to automatically perform auto-heal/repair/replace. It is actually the technology-enabled automation of complex business processes. It can streamline a business for

## Key Use Cases

- **Event management**  
aggregates and manages events from multiple event sources by filtering, deduplication, and correlation of events.
- **Cloud Migration**  
Offload payload from bare-metal, scale infrastructure to peak, paying only for what is used and optimizing cost by switching b/w multiple public cloud.
- **Unified Monitoring**  
A Comprehensive intuitive monitoring solution. An end-to-end performance monitoring from a single pane of glass.

simplicity, achieve digital transformation, increase service quality, improve service delivery or contain costs.

### **Multi-cloud management**

Helps to manage cloud resources with consistency and security using multi-use, intra-operable, environment and cloud-agnostic high-level design (HLD) and low-level design (LLD). It has the ability to manage multiple data centres or clouds—public or private—as if in a single environment. It's become the key to enterprise agility. Working across multiple clouds from multiple vendors is made easier in our platform.

### **Cross-environment workload portability**

Provides flexibility to migrate workloads between different cloud environments. It enables users to move applications, databases or even entire cloud environments freely from one cloud provider to another. Users are able to “cloud shop” and take advantage of better technology, capacity, scalability, security, customer service or lower costs.

### **Out-of-Box Integrations**

CGI SiteReliability360 can be integrated with any external platforms and tools. With the use of rich API support all the features can be leveraged programmatically. The notifications can be sent to any third-party tools such as ITSM, Collaboration tools and technical forums. The CI/CD pipeline can be made without even logging into the platform. Any public/private clouds, p-series servers, HMC's, virtualized environments can be integrated just like plug and play.

### **DevOps and DevSecOps**

Facilitates seamless DevOps, supporting quick and reliable building, testing, and application releases, while integrating security practices into every step of the process to safely distribute security decisions at speed and scale. Once a developer launches their application through CGI SiteReliability360, it can run that app on “auto-pilot.” It automatically scales, heals/repairs and even replaces infrastructure when needed if unforeseen things go awry in the cloud. It integrates with Maven/Jenkins to provide your team's software development lifecycle (SDLC) with Continuous Delivery capabilities.

### **Infra Cost Reporting and Optimization**

The Cloud cost management is to report on costs that have already been incurred. Along with the AI Driven approach this cost intelligence feature, helps you to create cost-effective software and make wise engineering and commercial decisions, such as how much to charge for a product. The cost forecasting capability will help to understand the cost and plan accordingly and make decisions.

### **Cloud migration**

The tool's re-hosting, refactoring, and re-platforming capabilities make it simple to move application workloads between on-premises and public clouds, increasing infrastructure flexibility and lowering infrastructure costs.

## **Supported Technologies**

### **Cloud and Infrastructure Providers**

- Microsoft Azure
- Amazon Web Services (AWS)
- Rackspace
- VMWare
- Google Cloud Platform

### **Tools and Technology Stack**

- Ansible
- Chef
- CGI IAP
- CGI CloudConnect
- Activiti
- JBPM
- OpenStack
- Puppet
- SaltStack

### **Continuous Integration**

- Atlassian Bamboo
- Jenkins
- CGI ServiceInsight360
- Cloud Transformation Factory

### **Containers**

- Docker
- Kubernetes
- GKS
- AKS
- EKS
- Red Hat OpenShift
- Red Hat Cloudforms

## Predictive self-healing

By automatically diagnosing, isolating, and resolving errors, Predictive Self-Healing is intended to maximize the availability of the system and application services. Increased system and application availability is the result of this, which lessens the effect of application failures in addition to reducing infra failure.

## Key Benefits

### Reduce Toils

Automates repetitive and mundane processes to reduce “toil” and improve automation maturity. Reducing toil is often mistaken for a linear. Rather than framing it as a project or special effort, reducing toil requires a continuous improvement approach. A tremendous advantage in both efficiency and agility goes to the Operations and SRE organizations who best adopt a continuous improvement approach to reducing toil.

### Keeps keen track of client SLOs

Our platform helps us to keep track of client’s SLO. Service level objectives (SLOs) specify a target level for the reliability of your service. Because SLOs are key to making data-driven decisions about reliability, they’re at the core of SRE practices. An SLO of 100% means you only have time to be reactive. You literally cannot do anything other than react to < 100% availability, which is guaranteed to happen. Reliability of 100% is not an engineering culture SLO—it’s an operations team SLO.

### Focus on Innovation

Allocate more budget and resources to innovation. Developers can spend more time writing code and less time requesting, waiting for, or configuring environments and troubleshooting deployment issues. QA teams can spend more time testing and less time trying to find and configure test environments. And IT teams can focus on innovation rather than troubleshooting.

### Reduces operational costs

Our platform manages the reliability and SLO largely by managing risk, we logically risk, we give fair importance to figure out engineer greater reliability and identifying the appropriate level of tolerance for the services we run. We strive to make a service reliable enough, but no more reliable than it needs to be. That is, when we set an availability target of 99.99%, we want to exceed it, but not by much: that would waste opportunities to add features to the system, clean up technical debt, or reduce its operational costs.

## Other Technologies

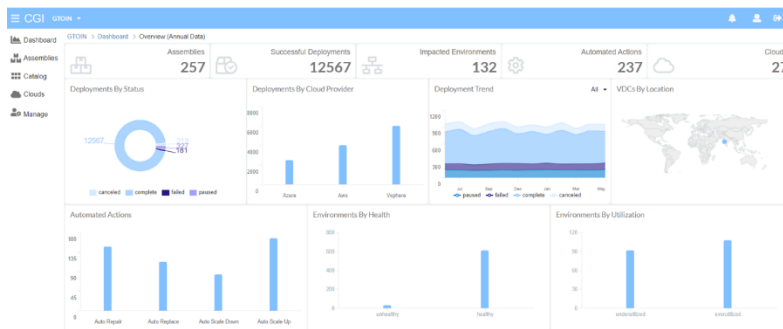
- **Database**  
Microsoft SQL, Oracle, PostgreSQL.
- **Middleware**  
Jboss, Oracle WebLogic, WebSphere.
- **Monitoring**  
Nagios, Zabbix, AppDynamics.
- **Network**  
A10, Cisco Nexus, NetScaler, F5, Open Flow, VMware NSX.
- **Service Management**  
CGI OneITSM, CGI FusionX, Remedy, ServiceNow, BMC Helix, FreshDesk.
- **Storage**  
3Par, Huawei OceanStor, vSAN, NetApp.

## Platform hardware sizing

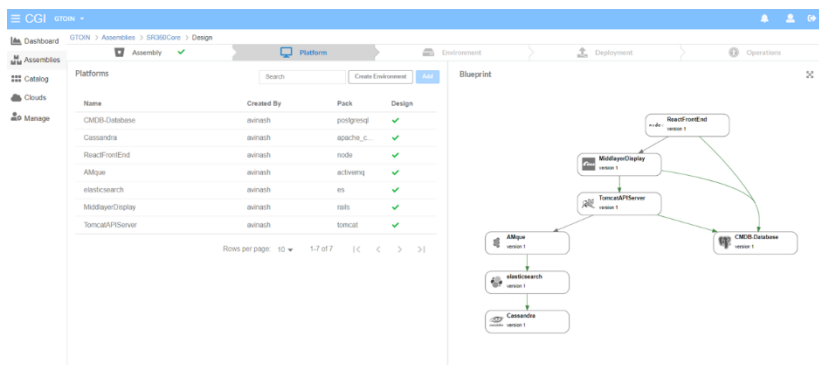
Server	Item	Minimum Requirements	Recommended Requirements
Master	RAM	16 GB	32 GB
	Processor	16 cores	16 cores
	Free disk space	250 GB	250 GB
Secondary	RAM	16 GB	32 GB
	Processor	16 cores	16 cores
	Free disk space	250 GB	250 GB

## Key use cases

CGI SiteReliability360 Features and Capabilities	CGI SiteReliability360 DevOps	CGI CloudConnect
Hybrid Cloud Management	Yes	Yes
Public cloud account /access management	Yes	Yes
Reporting and analytics	Yes	Yes
Policy based governance		Yes
Self-service portal	Yes	Yes
Cost Aggregation and Hybrid brokerage	Yes	
Application HLD & LLD	Yes	Yes
<b>Service &amp; IT Process Automation</b>		
Automation and orchestration	Yes	Yes
<b>CI/CD Orchestration</b>		
Continuous Delivery	Yes	
Continuous Deployment	Yes	



**Figure 2.** Customizable executive dashboard shows deployment, assemblies, packs, VDC information across the hybrid-cloud infrastructure



**Figure 3.** Application blueprint shown in platform page

## Supported operating systems

Operating System	Version	Platform
Red Hat Enterprise Linux	7.2, 7.3, 7.4	x86-64
CentOS	7.2, 7.3, 7.4	x86-64

## Supported databases

Database	Version
Microsoft SQL Database	2012, 2012 Cluster, 2014, 2016
Oracle Database	12c R1 Standard Edition, 12c R1 Enterprise Edition, 12c R1 RAC, 12c R2 RAC
External PostgreSQL Database	Add-On

## NFS server sizing

Item	Recommended Requirements
RAM	16 GB
Processor	8 cores
Free disk space	250 GB

## About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. Operating in hundreds of locations across the globe, CGI delivers an end-to-end portfolio of capabilities, from IT and business consulting to systems integration, outsourcing services and intellectual property solutions. CGI works with clients through a local relationship model complemented by a global delivery network to help clients achieve their goals, including becoming customer-centric digital enterprises.

### For more information

Visit [cgi.com](http://cgi.com)

Email us at [info@cgi.com](mailto:info@cgi.com)