Accela's Guide to SaaS

Here are the reasons why the Accela Cloud is the best choice for government agencies.

Software deployment via SaaS or cloud is becoming the norm for many agencies. There are many reasons for this including the following:

> Allows IT teams to be focused on *innovation* and delivering *high-value services* vs keeping the data center lights on

> Agencies gain agility and the ability to deploy applications faster without having to worry about needed datacenter infrastructure

> Provides automatic updates and releases of new software, and all the security, compliance, and performance monitoring software are included with the service

> Can provide a positive ROI across the infrastructure, personnel, facilities, and many other aspects of managing a datacenter

> An all-inclusive subscription model vs. capital expenditures can mean a predictable and consistent budgeting model vs. funding periodic and sometimes unpredictable upgrades of infrastructure
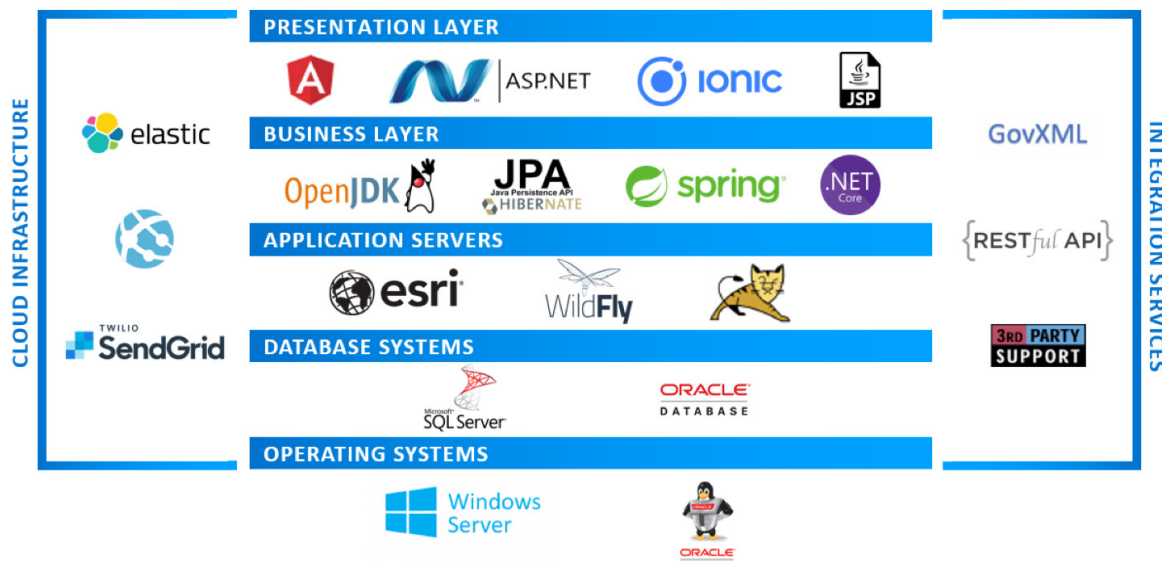
When cloud provisioning of software was a new concept, agencies would often ask questions such as:

> How secure is my data?

> How reliable is the system? Will I see painful downtime?

> Can I access my data for reporting? Is it still my data?

> Will it integrate with my other applications?

> Will it provide a good user experience under peak loads? Is it scalable?

> And finally, will it be cost effective in the long run?

Cloud-based solutions have come a long way and the leading cloud infrastructures have resolved these questions, making it a very attractive alternative to on-premises deployment.

Accela's Cloud Infrastructure

Accela has partnered with Microsoft to utilize the Azure infrastructure for its SaaS deployment. Accela has optimized its software, both the platform and Civic Applications for this environment. Accela's clusters in Azure ensure our customers get the performance, reliability, and scalability they need, for large and small implementations and highest peak loads.

CLOUD INFRASTRUCTURE

INTEGRATION SERVICES

PRESENTATION LAYER

ASP.NET | IONIC | JSP

elastic

BUSINESS LAYER

OpenJDK | JPA Java Persistence API HIBERNATE | spring | .NET Core

GovXML

APPLICATION SERVERS

esri | WildFly

{RESTful API}

TWILIO SendGrid

DATABASE SYSTEMS

Microsoft SQL Server | ORACLE DATABASE

3RD PARTY SUPPORT

OPERATING SYSTEMS

Windows Server | ORACLE LINUX

The Accela technology stack within Azure is made up of current and highly-performant technologies including those in the diagram above.

Dev Ops at Accela

Accela has brought on a highly skilled Site Reliability Engineering (SRE) team to manage its SaaS provisioning, and they employ world-class processes, SRE, and fault-detection to ensure the best experience for customers.

Accela utilizes a robust, audited incident, problem, change and release management system with defined escalation teams. Major releases are twice a year in the Spring and Fall, and smaller service packs are pushed monthly, along with minor updates as needed. Accela's goal is to ensure planned downtimes are as short and seamless as possible for customers.

Accela's site reliability engineering team includes highly skilled Site Reliability Engineering (SRE), and production DB engineering teams who are responsible for the entire SaaS delivery model.

Accela also utilizes real-time fault detection and performance monitoring, covering first-mile, mid-mile, and last-mile detection and resolution.

Finally, customers always know what is going on with Accela's SaaS environment, as its Cloud Engineering teams provide real-time communications via Trust.Accela.Com, which includes current status and proactive outreach when appropriate.

Physical Deployment

Accela deploys in multiple "Availability Zones" for each Civic Platform service, which allows it to achieve as much as the Azure uptime commit of 99.99% during normal operations. This environment allows Accela to ensure a committed Recovery Point Objective (RPO) of 1 hour (which is more typically < 5 minutes), and a committed Recovery Time Objective (RTO) of just 4 hours.
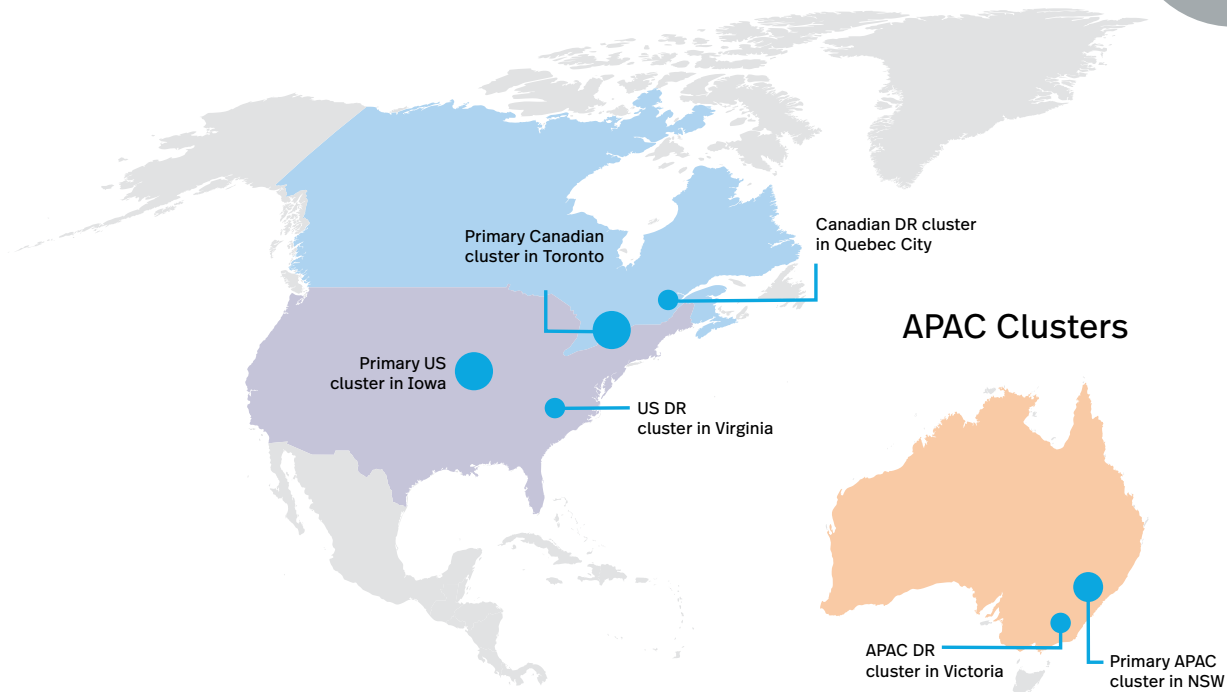
There are three Azure data centers in the United States and internationally. Each location has a primary set of SaaS clusters, and a disaster recovery (DR) set available as needed. In the case a disaster is declared in one of the regions, Accela has a committed Recovery Point Objective (RPO) of 1 hour. The map of Azure datacenters is shown on the next page.

Security in the Cloud

Security is listed as a top priority for IT professionals in the wake of the increase of data loss, data theft, and the burden and cost of managing system vulnerabilities.

The great news with SaaS is agencies no longer must fight to stay ahead of security. A SaaS environment from a leading provider such as Azure utilizes the most current security and compliance technologies that would be difficult for an agency to purchase and implement themselves.

At Accela, our part in security is with the cluster designs and architectures, and this is an area where we maintain significant investment levels. We have adopted a *SaaS First*, *Default Deny*, *Zero-Trust* security posture to ensure the highest degrees of security and data integrity.

Primary Canadian
cluster in Toronto

Canadian DR cluster
in Quebec City

Primary US
cluster in Iowa

US DR
cluster in Virginia

APAC Clusters

APAC DR
cluster in Victoria

Primary APAC
cluster in NSW

Physical Deployment

Accela provisions its software from three Azure centers in the United States and internationally.

Our investments in security include leading-edge monitoring, alerting, metrics, and automation from the vendors shown below.

Azure ATP

Azure Firewall

RAPID7

VERAC01DE

Carbon Black.

tenable

CLOUDFLARE

Azure Advanced Security Center

Also, all Accela software is developed as part of a Secure SDLC, with security requirements identified and implemented throughout development process. Third-party integrations are facilitated via secure API and growing number of secured standard adapters. Finally, Accela ensures all staff comply with standards for security awareness, data integrity, and data privacy.

Compliance Requirements for SaaS

Certifications and compliance guide vendors through required standards and controls, and with Azure, Accela ensures compliance and compliance technologies are in integral part of its development lifecycle.

Self-hosted customers may not need to audit against compliance standards but *must* provide resources, tools, and other investments to address potential holes implied by compliance standards. This is often costly, difficult to resource and maintain, and many struggle to meet these requirements increasing vulnerability and risk.

Microsoft spends over $1B on R&D in the areas of security and compliance, ensuring our customers have the best technologies available.

Through Accela's partnership with Microsoft, it provides extensive certifications with software deployment, including multi-layered security which extends to physical datacenters, infrastructure, and operations. These include:

Argentina PDPA	Canadian Privacy Laws	CDSA	China GB 18030	China MLPS	China TRUCS	CRS	CSA CCM	CS Mark (Gold)
DIACAP	DISA	ENISA IAF	EU Model Clauses	EU-U.S. Privacy Shield	FACT	FDA CFR Title 21 Part 11	FedRAMP	FERPA
FIPS 140-2	FISC	FISMA	GxP	HIPAA/HITECH	IRAP (CCSL)	IRS 1075	ISO/IEC 27001	ISO/IEC 27017
ISO/IEC 27018	ITAR	Japan My Number Act	MARS-E	MPAA	MTCS	NIST 800-171	NZCC Framework	PCI-DSS
Section 508 VPATs	SHARED ASSESSMENTS	SOC 1	SOC 2	SOC 3	Spain ENS	UK G-Cloud		

Building on the compliant Azure foundation, Accela layers on its own yearly audits for SSAE18 SOC2 Type 2, HIPAA HITECH, PCI DSS SAQ D Service Provider, and CCPA compliance.

System Availability

Accela knows the effort for self-hosted customers to "hit all the nines" in uptime means high costs in redundancy, performance, and backup infrastructure. Many struggle to meet their uptime objectives.

The results of this can be employee inefficiency and reduction in morale, and poor levels of citizen-service delivery which can be frustrating and costly.

Accela invests $10s of millions its cloud technologies to ensure highest uptime and reliability. Accela's utilization of the Azure cloud in a multiple Availability Zone-based deployment provides a 99.99% uptime capability for customers.

Please see the diagram below of Accela's system uptime since September of 2020.
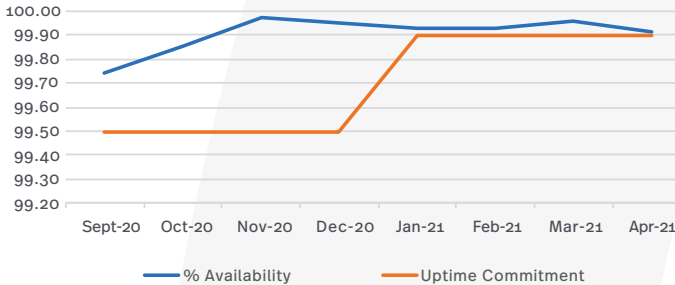
Accela's experienced Cloud Engineering organization have designed and deployed solutions to reach objectives for application uptime. It is tracking to 99.95% uptime, meeting, or exceeding SaaS industry standards based on the published uptime statistics from the three prominent cloud hosting providers*.

Application Performance

The characteristic of a software deployment most obvious to users on an ongoing basis is system performance. Waiting too long for an application to perform a function can be frustrating and inefficient. Accela prides itself on the effort and investment made in maintaining high performance in its cloud environment, and this includes:

> Instrumentation of performance from end-user through to Accela servers including Real-User Monitoring (RUM)

> A dedicated Production Database Engineering team for our cloud environment who are experts in security and performance of data management

> Tracking and tuning of all key business transactions at the API-level to maximize cross-solution performance

> Our *ExpressRoute* network peering with all major providers via MS global WAN to optimize network performance

> "Cloud-to-cloud" integrations with 3rd party services such as GIS, EDMS, and payment gateways for high performance with every major and minor release

> Comprehensive load and performance tests performed every major and minor release

These efforts, along with the infinite scalability of the Azure cloud environment ensures Accela's customers see excellent application performance across their agency employee, mobile worker, and citizen users.

Conclusions

Many agencies are realizing that cloud-based solutions provide significant benefits over staffing and investing in an on-premises datacenter, and any early concerns over security, performance, reliability, and ownership of data are a thing of the past.

Accela's strategic partnership with Microsoft and the utilization of Azure to deploy its solutions gives customers industry-leading capabilities in these areas. Accela's optimized architectures in Azure for the Civic Applications and Civic Platform, and focus on a strong site reliability engineering discipline, ensure customers experience high performance service delivery for their employees and citizens. And with the savings we've seen when customers switch to SaaS, it is no wonder over 80% of our new Accela deployments are in the cloud.

For more information on our SaaS offerings, including our migration program for existing customers, please see your Accela

About Accela

Accela provides a market-leading platform of SaaS solutions that empower state and local governments to build thriving communities, attract and grow businesses, and deliver citizen services.

From planning, to building, to service request management and more, Accela's fast-to-implement Civic Applications, built on its robust and extensible Civic Platform, help agencies address specific needs today, while ensuring they are prepared for any emerging or complex challenges in the future.

Learn More

Visit **www.accela.com** or call us at (888) 722-2352

*"SLA for Virtual Machines," Microsoft, https://azure.microsoft.com/en-us/support/legal/sla/virtual-machines/v1_9/

"Compute Engine Service Level Agreement (SLA)," Google, https://cloud.google.com/compute/sla

"Amazon Compute Service Level Agreement," Amazon – AWS , https://aws.amazon.com/compute/sla/