mindbody

# **Platform Reliability** Whitepaper

### Summary

Our platform is engineered to provide high reliability and availability. We continually monitor our infrastructure for any sign of failure or pending failure, and we take preemptive action to minimize or prevent downtime. We maintain the reliability of our service by utilizing redundant network infrastructure, clusters that tolerate failure of individual nodes, and deploying high availability server pairs. We also implement various disaster recovery measures, including full replication of hardware and data in our geographically distinct data centers, to minimize data loss in the event of a data center disaster.

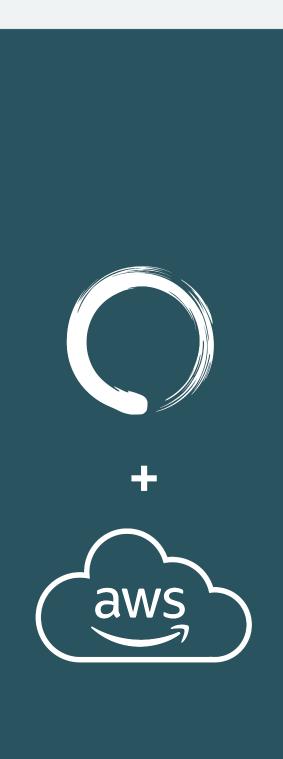
Driven by the need for faster-to-market product improvements, dynamic scalability, and innovation acceleration, Mindbody has migrated our platform to the AWS cloud. As part of this migration, Mindbody's platform engineering team has aligned their practices to the AWS Well-Architected Framework. Our AWS environment undergoes regular review to identify areas of improvement and to stay up to date with the evolving landscape of new technologies.

#### Service Level Agreement:

https://company.mindbodyonline.com/legal/ terms-of-service/service-level-agreement

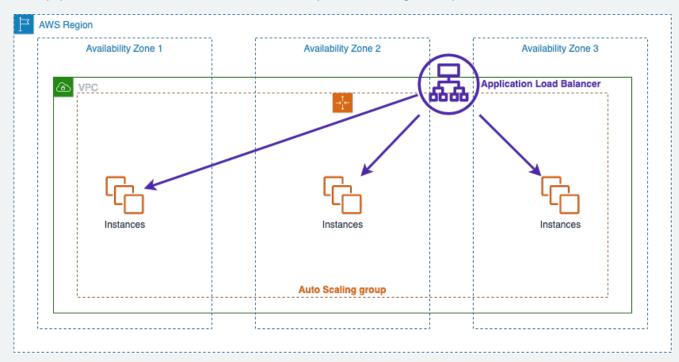
#### **AWS Well-Architected Framework:**

https://aws.amazon.com/architecture/wellarchitected



### Availability & disaster recovery

The architecture of Mindbody's software platform is designed for high availability and resiliency. In the event of a disaster, Mindbody has disaster recovery plans that are reviewed and updated regularly.



#### **Disaster recovery**

Mindbody's disaster recovery plans are reviewed annually and provide a thorough approach to help get us back to business faster—maintaining or restoring critical systems. Disaster recovery procedures are tested regularly.

#### High availability & resiliency by design

Mindbody takes advantage of AWS cloud's global infrastructure by distributing our platform across multiple availability zones in each region where we operate. Each availability zone is a fully isolated partition of the AWS infrastructure made up of at least one physical datacenter.

#### Fault isolation and failure recovery

Systems are deployed across multiple availability zones or datacenters. Whenever possible, changes are made to only one zone at a time.

#### Data backup and recovery testing

Customer data is backed up regularly using Amazon S3 Storage Services and replicated across multiple AZs. Mindbody tests the integrity of backup data by performing automated data restoration processes.

### Scalability

Mindbody infrastructure is designed to be scalable whenever possible. This allows our software to continue to be responsive during peak times.

#### Scale horizontally to increase availability

Requests are distributed across instances to reduce the impact of a single failure. When usage increases, additional instances are deployed proactively to maintain performance.

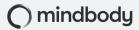
#### **Content distribution network**

Mindbody uses Cloudflare, a content delivery network (CDN), to provide faster enduser response times by serving requests closer our customers' location.



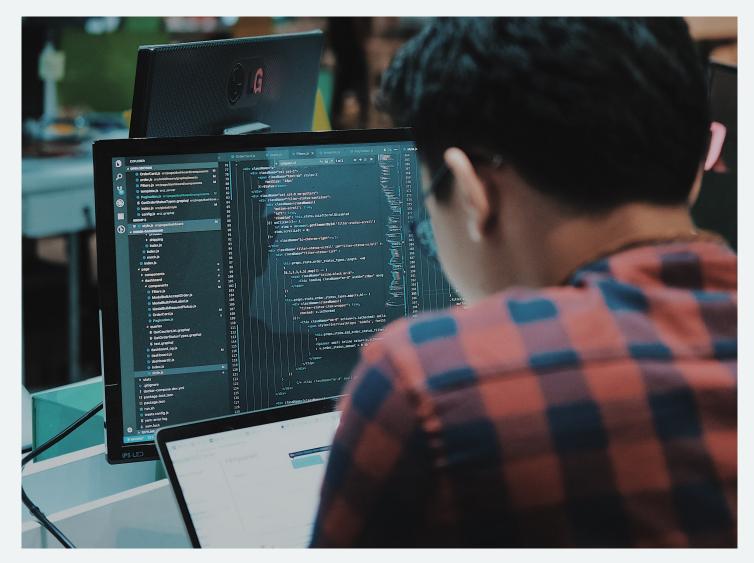
#### **Capacity management**

Mindbody monitors demand and utilization of each component of our platform. Additional capacity is added prior to experiencing performance degradation.



### **Operational excellence**

We continually make changes to our platform to deliver new features, improve security, and become more scalable. Mindbody implements change management standards to ensure that changes result in minimal disruption.



**Perform operations as code** Changes to our infrastructure are made using automation to reduce the chance of human error. **Test and validate changes** All changes are tested in a development environment prior to being implemented in production. **Approval process** 

All changes are reviewed and approved prior to implementation.

### Monitoring

Monitoring is critical to ensure that we meet our availability commitments. We monitor application performance, as well as the health of our underlying infrastructure.

Mindbody uses New Relic Application Performance Monitoring to track the health of our services in real-time.

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	ra	
Summary	Transaction type <sup>(1)</sup> Web $\sim$ Compare with none $\sim$	Instances $^{\odot}$ All instances $^{\vee}$
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		Related Deployment 11:27 am
Service map	350 ms	Plan Service
Dependencies	300 ms	Deployer: gparker@telco.nrdemo.com Revision: Rolling back query changes
Transactions	250 ms	Teams: Api-Services, ECOMMERCE
Databases		Related Deployment 11:19 am
External services	100 ms	Plan Service
JvMs	50 ms	Deployer: gparker@telco.nrdemo.com Revision: Hotflix: Fixing bad query Teams: Api-Services, ECOMMERCE
EVENTS	I1, Sep 01, PM 12:00 AM 01:00 AM 02:00 AM 04:00 AM 05:00 AM 05:00 AM 07:00 AM 08:00 AM 09:00 AM 11:00 AM 11:00 AM	Related Deployment 11:04 am
Errors	Java  Response time Web external C Related Deployment	Plan Service Deployer: gparker@telco.nrdemo.com
Violations	Throughput 413 rpm Error rate 1.38 % Apdex 0.89 App server 0.77 End User	Revision: Optimizing database query Teams: Api-Services, ECOMMERCE
Deployments	AVENUE AVENUE AVENUE AVENUE SCORE APPSENDER[1,7]	
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#### Application performance monitoring

Each of our applications is monitored for usage, response time, error rate, and available capacity. If any metrics are reporting outside of their normal baseline, the responsible team will be notified on a 24x7 basis.

#### Infrastructure monitoring

Each infrastructure component is monitored for responsiveness and errors. Any condition which would impact application performance will result in the responsible team being engaged.



## Incident management

Our teams are responsible for the availability of services that we build and support. Software failures are inevitable, but their impact should be minimized. We have support for emergency situations and mitigation of issues 24/7.



### Our commitment

Connecting the world to wellness, and the success of our customers, are the core of everything we do at Mindbody. As part of that, we work continuously to ensure that Mindbody's software is available for our customers. Please contact your account executive if you have any questions or concerns.

Charles P. Butler SVP, Production Technology