



NCS Overview

NCS is a data analytics and software company. Our clients (governments and banks) hire us to legitimize or detect illicit activity in high risk areas. We monitor cannabis, opioids, alcohol, tobacco, pay day lending, etc. through our proprietary algorithms. Our software aggregates and identifies outliers while helping agencies to appropriately audit their constituents.

NCS is Denver based and uses an outsourced development team, Trinity Technology Group. NCS embeds Information Builder's WebFocus tool for business intelligence/visualization.

The NCS Platform is a cloud-based application hosted on AWS-West, a FedRAMP Moderate Certified region. This means the cloud provider has implemented 325 security controls that were defined by the U.S. government as a way to standardize FISMA (see more at fedramp.gov).

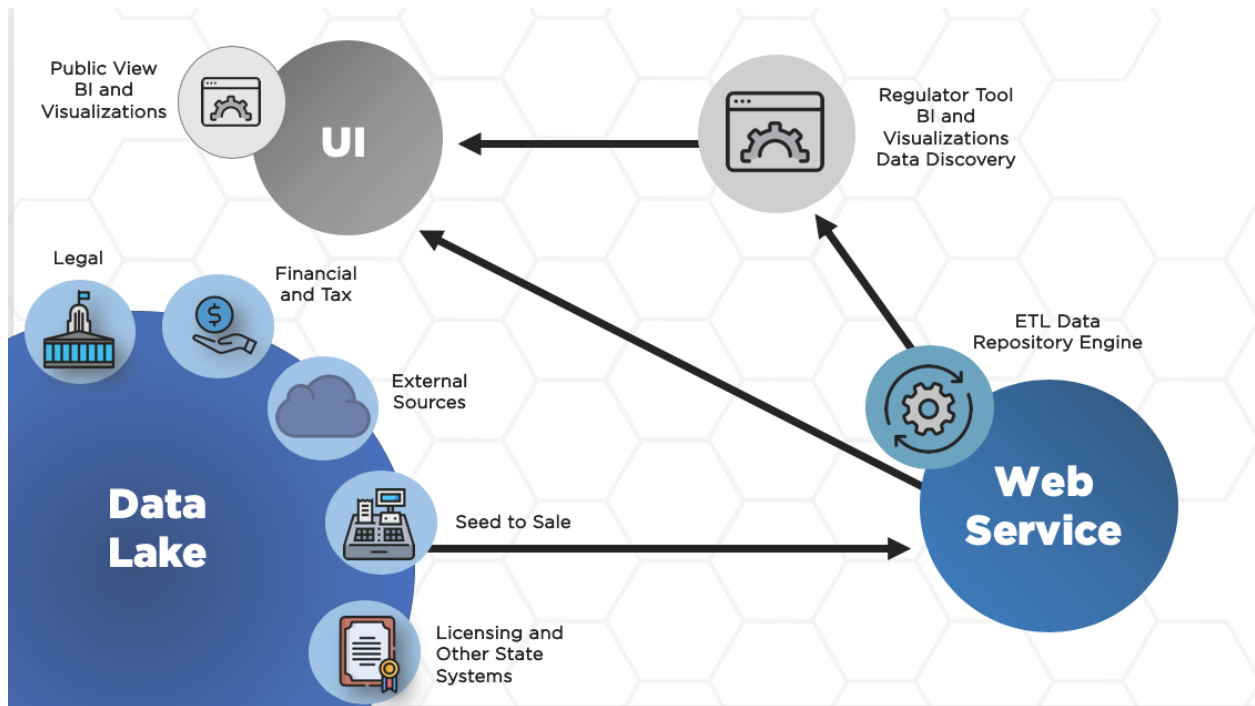
The NCS Platform follows all industry best practices for security, including SSL and AES-256 encryption on its API tokens.

The NCS Platform has recently migrated to a serverless environment (AWS Lambda). An environment like Lambda allows for infinite scaling (meaning speed is not affected by the number of users or amount of data in the system) and automatic security, like using a Virtual Private Network (VPN) and Virtual Private Clouds at all times. AWS Lambda is SOC, HIPAA, PCI, and ISO compliant (see more at <https://aws.amazon.com/lambda/features>).

The NCS Platform is protected by a Web Application Firewall and has backups on a separate AWS region (also FedRAMP moderate) with database backups several times a day.

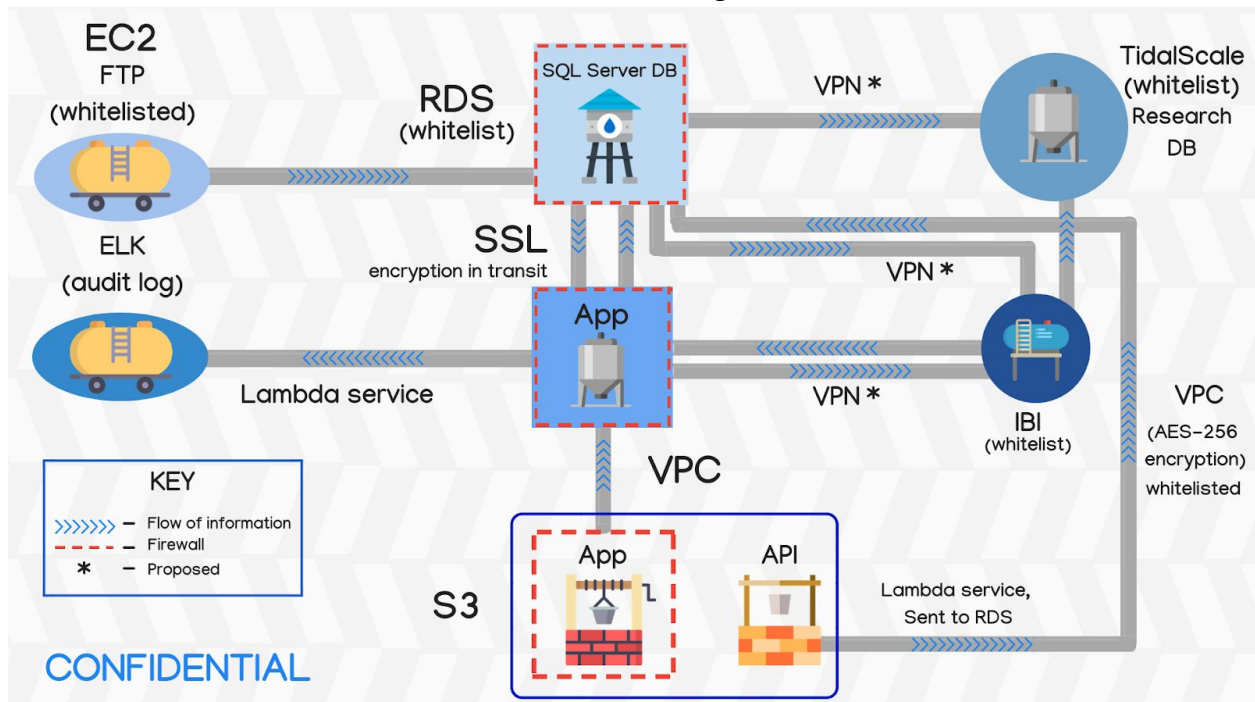
The NCS Platform utilizes an audit log (ELK Stack) to track actions Users take while in the system to be used in investigatory situations if deemed necessary.

NCS Application Overview



The above is a high-level overview of our future plans for our platform. We receive data from different data sources via different ingestion methods (API, FTP, CSV, user-input, etc).

NCS Data Flow Diagram





We use different AWS services, including S3, Lambda, and API gateway. We call our S3 buckets:

- 1- NCS POS API– allows businesses to feed data from their point-of-sale directly to us
- 2- APP/NCS Platform – our role-based angular application

We utilize Microsoft SQL Server on AWS RDS for our database.

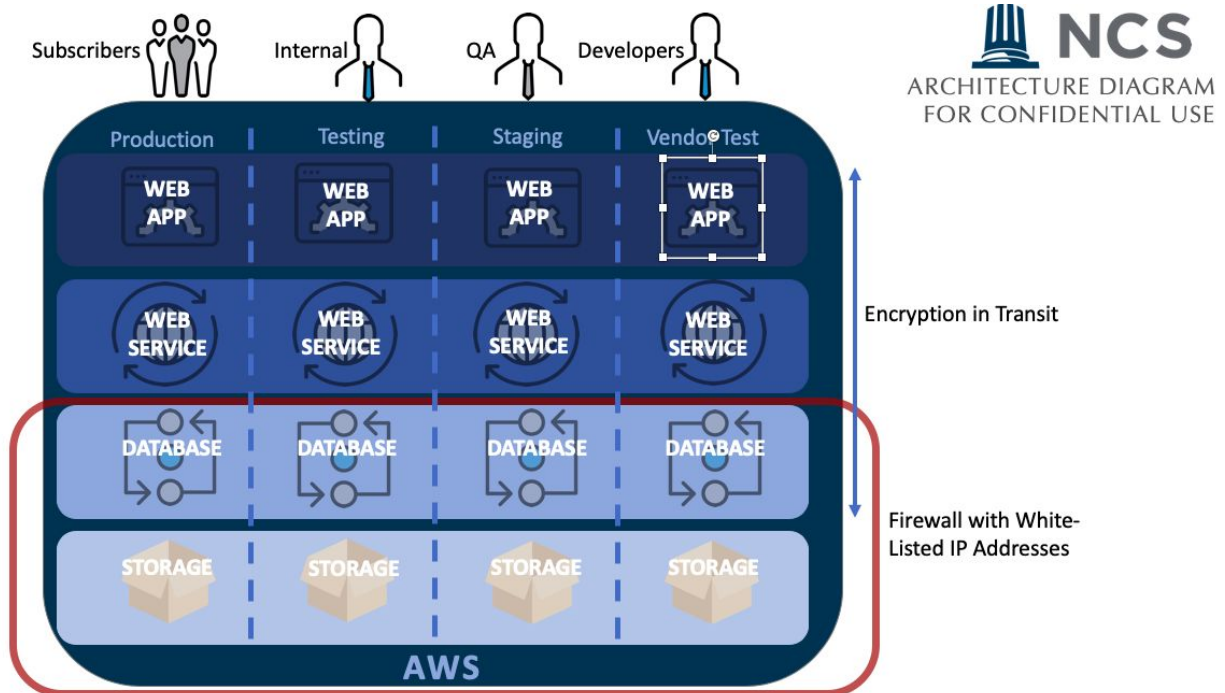
We have two EC2 instances:

- 1- ELK server for event driven audit logging
- 2- FTP server – not currently active

Our application also integrates Information Builder's Web Focus server to render BI visualizations through frames in our platform application. We use JWT tokens to pass security and RBAC through IBI's Web Focus application.

The application security is RBAC. However, NCS is looking into adding SSO to support those clients that currently utilize SSO in their environment.

In addition, we have a cloud based super computer that we lease through TidalScale. This is housed in a data center in San Jose, CA, but we access it much like a virtual machine. We use this as our sandbox for developing algorithms. NCS' analysts access the TidalScale machine via whitelisting and uses several tools on the machine such as R, Python, ESRI, etc



The following list is not intended to be complete. These are meant to begin discussions for services to be provided.

Short term needs

- 1- Architecture review and recommendations
- Review firewall setup for ELK and FTP server
- 2- Review VPN connections
- 3- Establish missing VPN connection(s) (TidalScale)
- 4- Review office firewall security
- 5- Review employee desktop machine security
- 6- Managed Service Provider
 - a. Maintain 24/7 Hosted Service functions, Servers, Firewalls and other components of Hosted Service security, performance monitoring
 - b. Remediate any identified or reasonably identifiable threats to the availability of Hosted service functions
 - c. Perform all updates, bug fixes, enhancements, new releases, new versions, and other improvements to the Hosed Services, collectively known as patch management



Mid term needs to discuss

- 1- Level one support maintenance
- 2- Level two support maintenance¹
- 3- Data Lake project? (METRC ingestion)

Vulnerability and Penetration testing

Architecture Review

Firewall for SQL database?

Long term needs

- 1- Database optimization

¹ In discussions with TTG