GET ON THE LEADERBOARD!

REMINDER: You can earn points during this session! Submit your questions, answer polls and leave feedback on this presentation through the NSUC23 mobile app.

The more you use the app, the more points you earn. Winners will be announced daily.

Bibhas Sarkar

Director, Technology Applications

Bibhas has been pivotal in designing and leading technical teams for achieving business goal and is working in the industry for over 27 years.

He enjoys soccer, loves video games and interested in sci-fi movies/shows/books
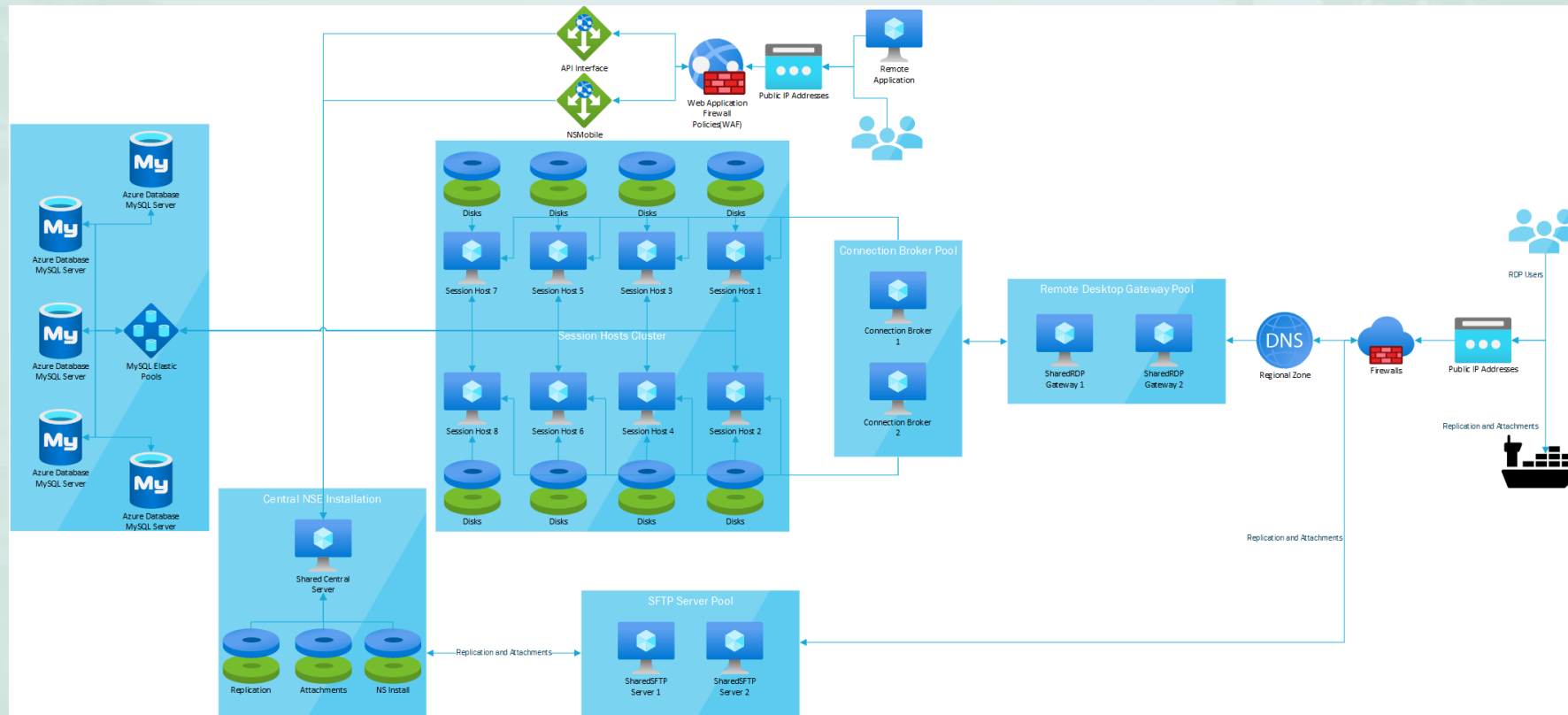
Engineering Operations

Current State of the Environments	00:00 – 00:10
Future State of the Environments	00:11 – 00:20
Replication	00:21 – 00:30
Remote Management	00:31 – 00:40
QA	00:41

Current State

ABS WAVESIGHT™

Current State Infrastructure

The current state and the needs

- RDP access is an antiquated method which requires some heavy front end environment configuration

- Connectivity is slow and attachments are handled through the windows clipboard

- Connectivity cannot use 3rd party identity (your own login)

- Multi-tenant environment is cumbersome and requires specialized configurations to maintain

- Redundancy model and monitoring were not originally included in the architecture

Future State

ABS WAVESIGHT™

Future State Infrastructure
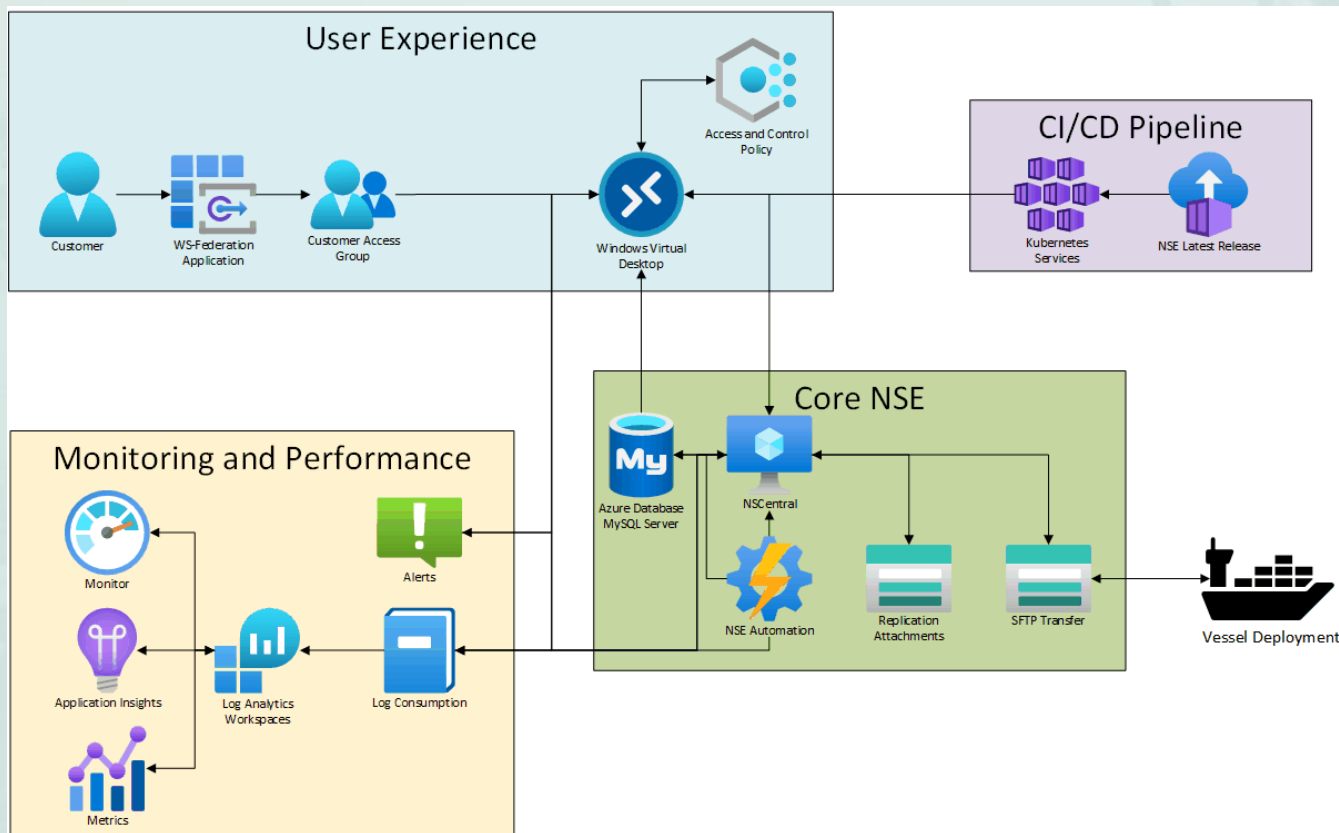
The future state and the needs

User Experience

- Azure Virtual Desktop enables 3rd party identity and increase attachment speeds

- Moving away from fixed drives allows for geo-redundancy across attachments, replication, and all other storage needs

- Moving from scheduled tasks to runbooks enables secured execution and better notifications for failures

NS Central Configuration

- Dedicated DBs versus the shared pool provides better performance, DR Resiliency, and geo-redundancy

- Dedicated Reporting database for faster report and data analytics results

- Containerizing NS speeds time to delivery for updates of NS and all customers can be upgraded through a Kubernetes deployment upgrade

Updated Infrastructure Requirements

WaveSight Hosted

- ISO27001 Certified environment

- SOC 2 Type 1 and 2 Audited

- NIST compliant (for government cloud only)

- End to end monitored system through multiple tools

- CI/CD code scanned for vulnerabilities and quality

- All Servers patched and up to date

- Vulnerabilities worked through the QA team to ensure application compatibility

- Azure monitoring with "eyes on glass" dashboarding using Graphana and Logic Monitor

- All systems have geo-redundancy with an active/passive framework

Updated Infrastructure Requirements

Self Hosted Recommendations

Server Build:

- 4 core 16Gb ram with a separate storage for Attachments and replication

- DB on a hosted system either in the cloud or on another Virtual machine with the same build

- If it is deployed to an "all-in-one" server 8 core 32Gb build with the same storage requirements

MySQL 5.7 Flex Server for Azure or MySQL 5.7 hosted

MariaDB Hosted or Vessel

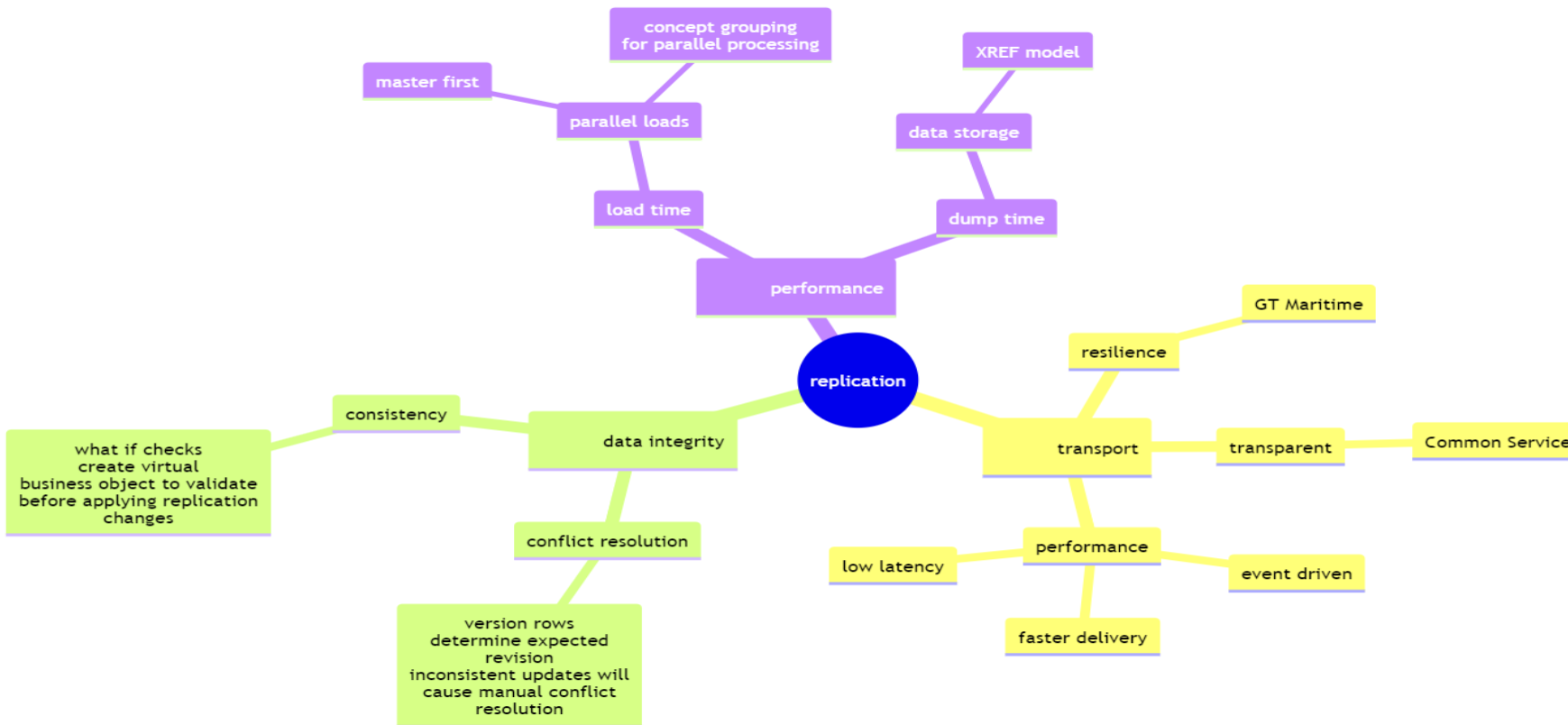Storage Account SFTP for replication or other file sync method

Windows Server 2019 or better

Office installation for remote locations (not in the same country as the Central office installation)

Replication

Transport, Performance & Data Integrity

Replication

0-4 Months

- Transport – pilot testing of GT Maritime

- Common Service – Implementation in progress

3-6 Months

- XREF improvements

6-12 Months

- data Integrity

- conflict resolution

Transport

This will enable us to have efficient transfer of files, and not do deal with individual configuration of say email, ftp, etc. Allow automated deployment and centralized configurations. Many of the replication issues are due to failure of sending the payload and issues with vendors like Microsoft/Google changing their policies and it takes time to resolve those issues.

XREF

Many of the replication load or dump performance is associated with this. So, there is a need for some safe refactoring of code, to make it faster as well as reliable. This is one of the top items in our TODO list

Conflict Resolution & Data Integrity

Many a times the data gets corrupted as the system tries to resolve the conflicts rather than giving the user an option to choose what to accept and what to reject, which will eliminate many of the data discrepancies we see over time. In addition to this we are planning to add some data integrity check before loading, to ensure the data will be the right state after the changes are applied.
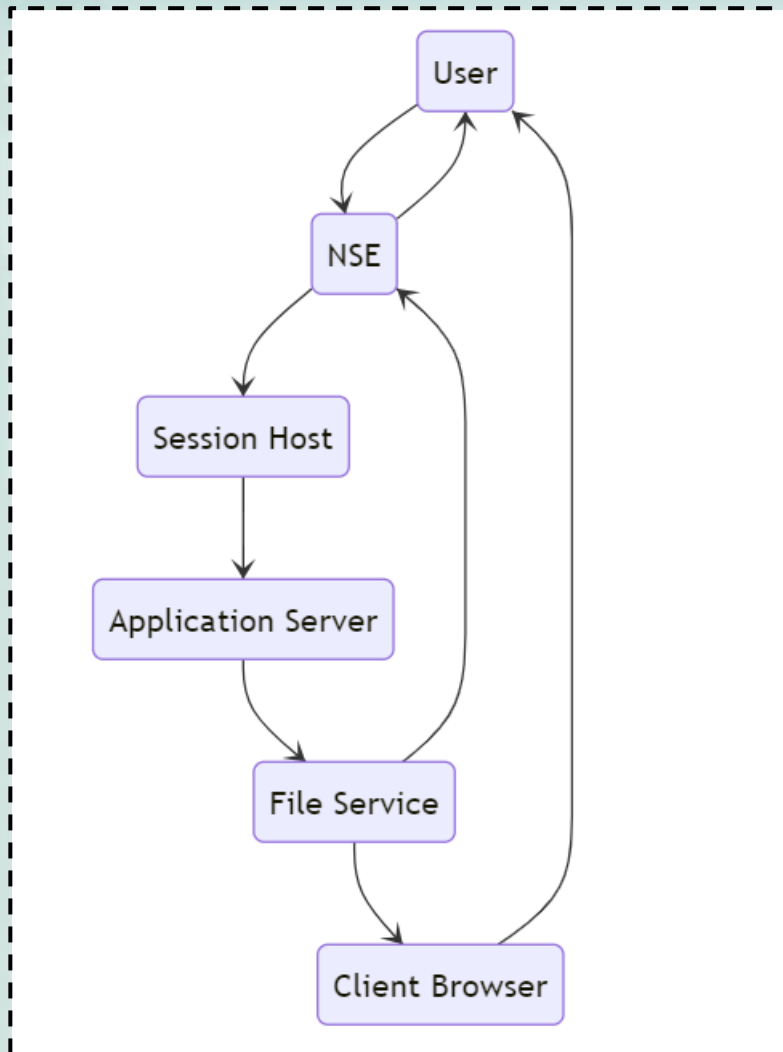
Problem

Application hosted on cloud or session virtualized using Citrix/Remote App – the end user doesn't have access to the server, so for system administrator or user managing replication or interfaces, need to check the log or access the file generated by the system, can't be accessed, they need to depend on someone with rights to access the server to get the files. This is a problem as they might have to wait for a long time to get desired files.

Solution

A file service will be introduced that can be accessed via browser or through NSE, to access some whitelisted files/folder from the server. This will have user level restriction based on system authorization. The service will provide basic capability like download, upload, delete files.
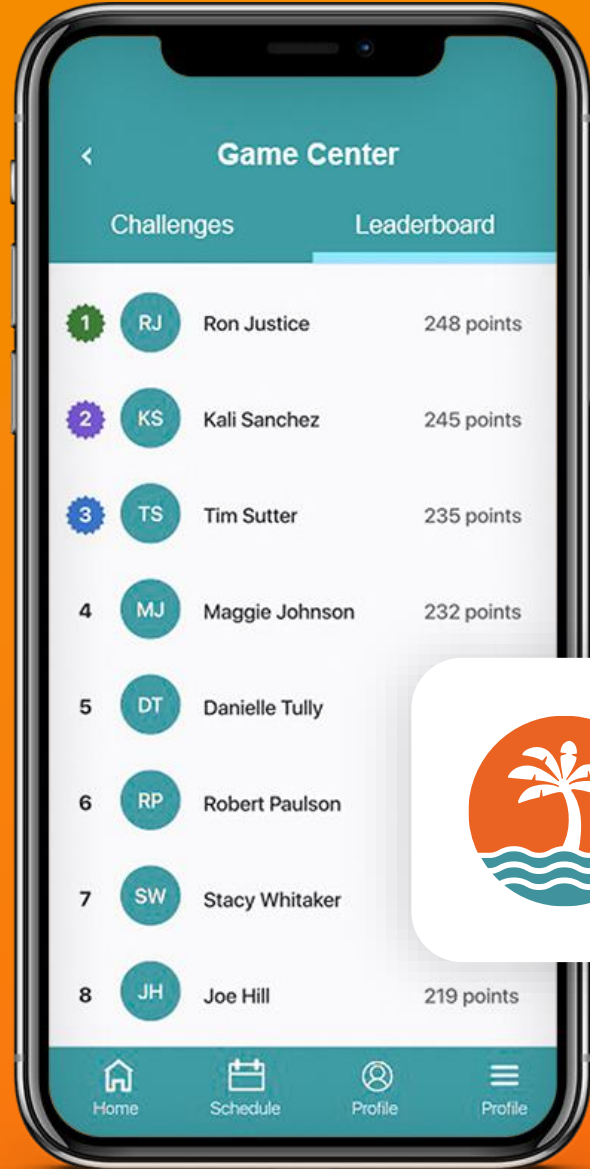
How many points did you get?

Use the NSUC app leaderboard to check your score and keep participating throughout the conference for a chance to win prizes (and bragging rights)!

#NSUC23

THANK YOU

Be sure to opt-in to notifications to receive updates on when new content is added.

#NSUC23

ABS WAVESIGHT™

23RD ANNUAL
NAUTICAL SYSTEMS GLOBAL
User Conference