

# Autoconfiguration of remote desktop clients for cloud-based secure and interactive visualization

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## Objectives

Automate remote desktop client configuration for servers run on cloud-based resources

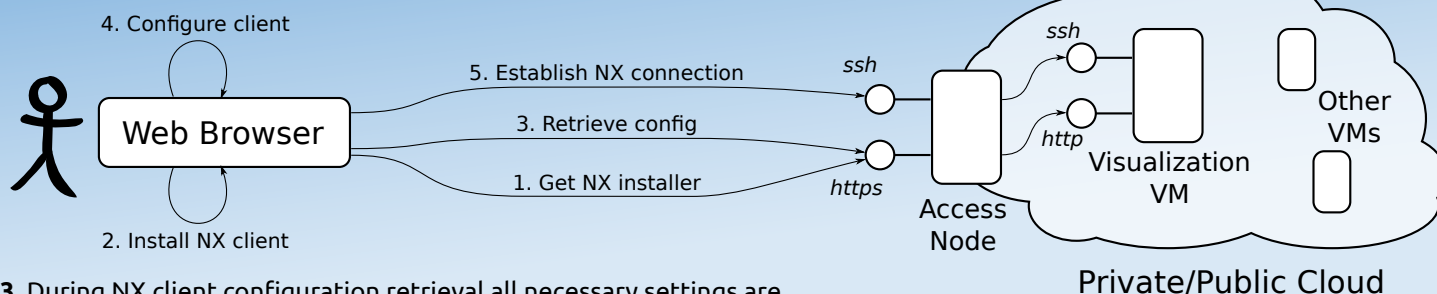
Support any visualization package and different operating systems and utilize the user's web browser for connection initialization

Make the remote desktop connections secure and enable credential injection

## Solution

1. Gets the NX installer through a prepared link with necessary connection settings (IP addresses and service ports).

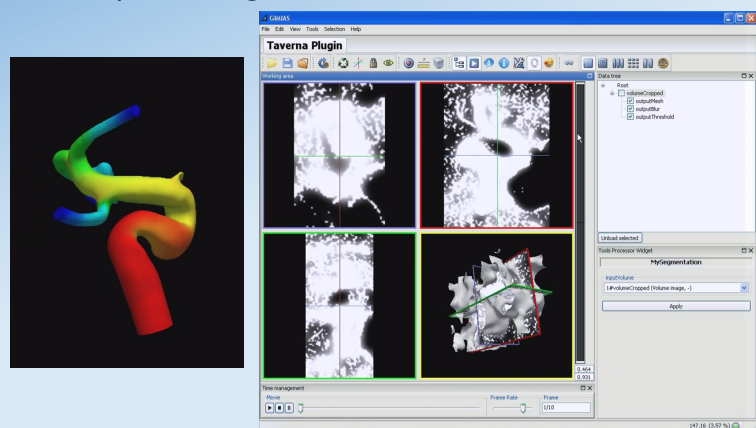
2. Installs the NX client on the user machine recognizing the operating system. Java Runtime Environment is required to complete this operation.



3. During NX client configuration retrieval all necessary settings are injected into the document and returned in the response to the client.

## Current deployment

Deployed in the VPH-Share environment to support applications using visualization software run on Linux. GIMIAS is one such case where a clinician has to mark an area of interest on the surface of an aneurysm for further processing.



4. The NX client is setup with correct address, port number and credentials. The process is fully automated without any user interaction. In case a password is not provided in the configuration document the user is prompted to enter it.

5. NX connection is established and the user is presented with a ready-to-use visualization application to perform one of the workflow steps.

## Future work

Regenerate credentials passed to the NX client every time a user establishes a new remote connection to improve security.

Use private/public key authentication and investigate means of key distribution.

Inject public keys into the machine on which the remote desktop server is available.

## References

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4. GIMIAS: A workflow-oriented framework for solving biomedical image computing and simulation problems, <http://www.gimias.org>, 2014