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Making Integrations Simpler



Atom vs Molecule vs Atom cloud



Table of Contents

What is Atom Cloud?	4
Atom vs Molecule vs Atom Cloud	5

In this blog, let us discuss,

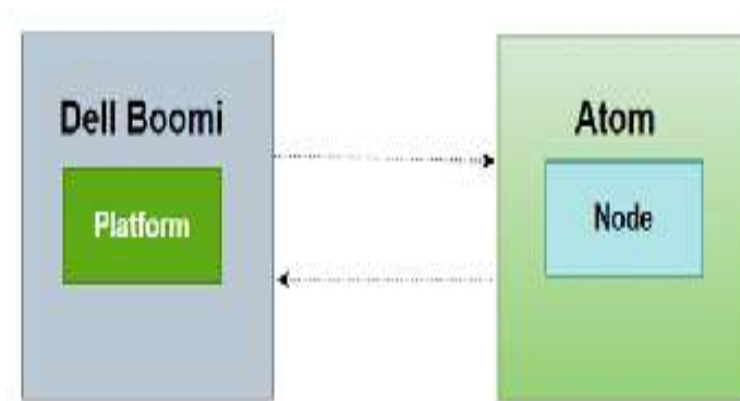
What is Atom?

What is Molecule?

What is Atom cloud and its differences?

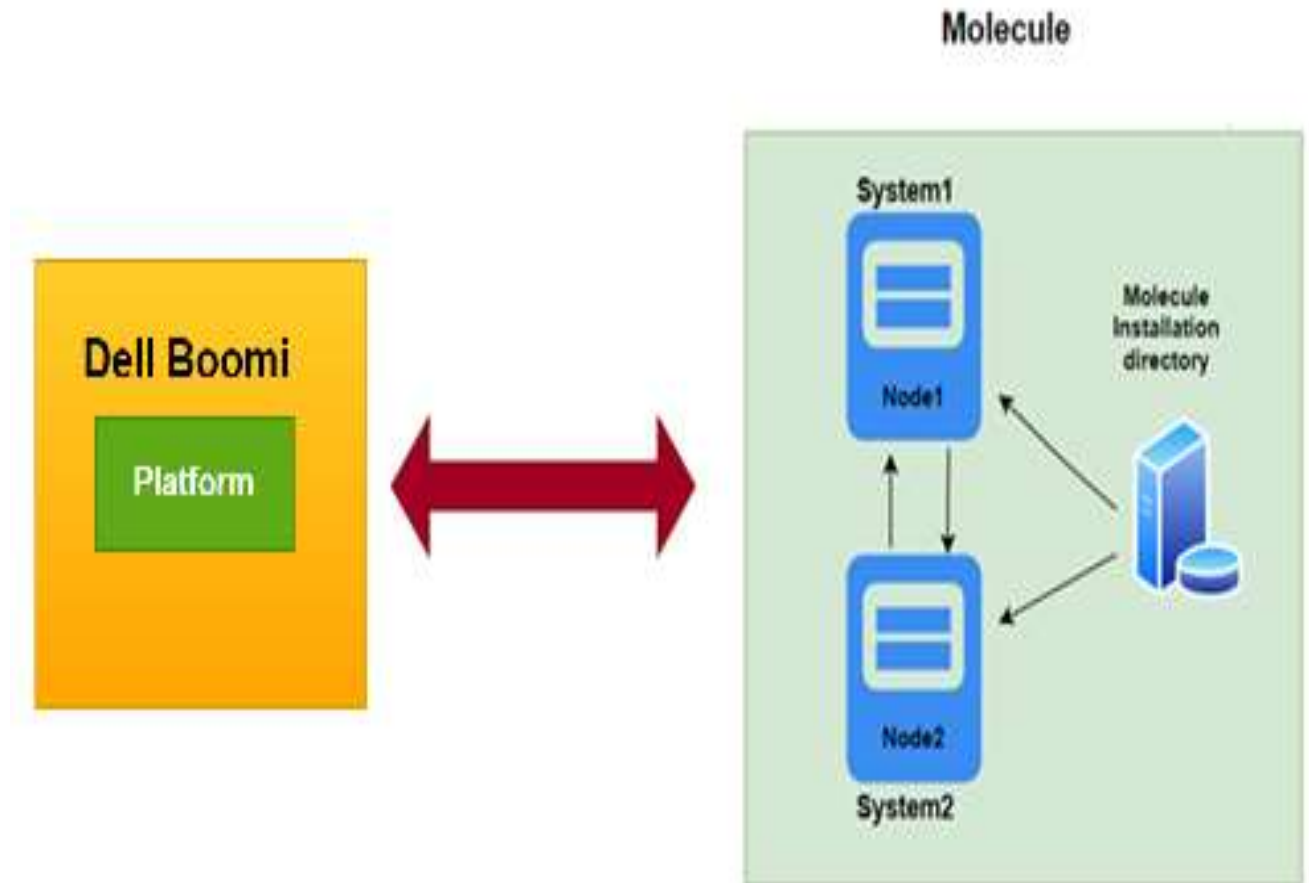
What is an Atom?

- An Atom is a single tenant, single node run time engine to execute the integrations developed in Boomi.
- We can install Atoms directly into your local network which is required for an on-premise deployment model.



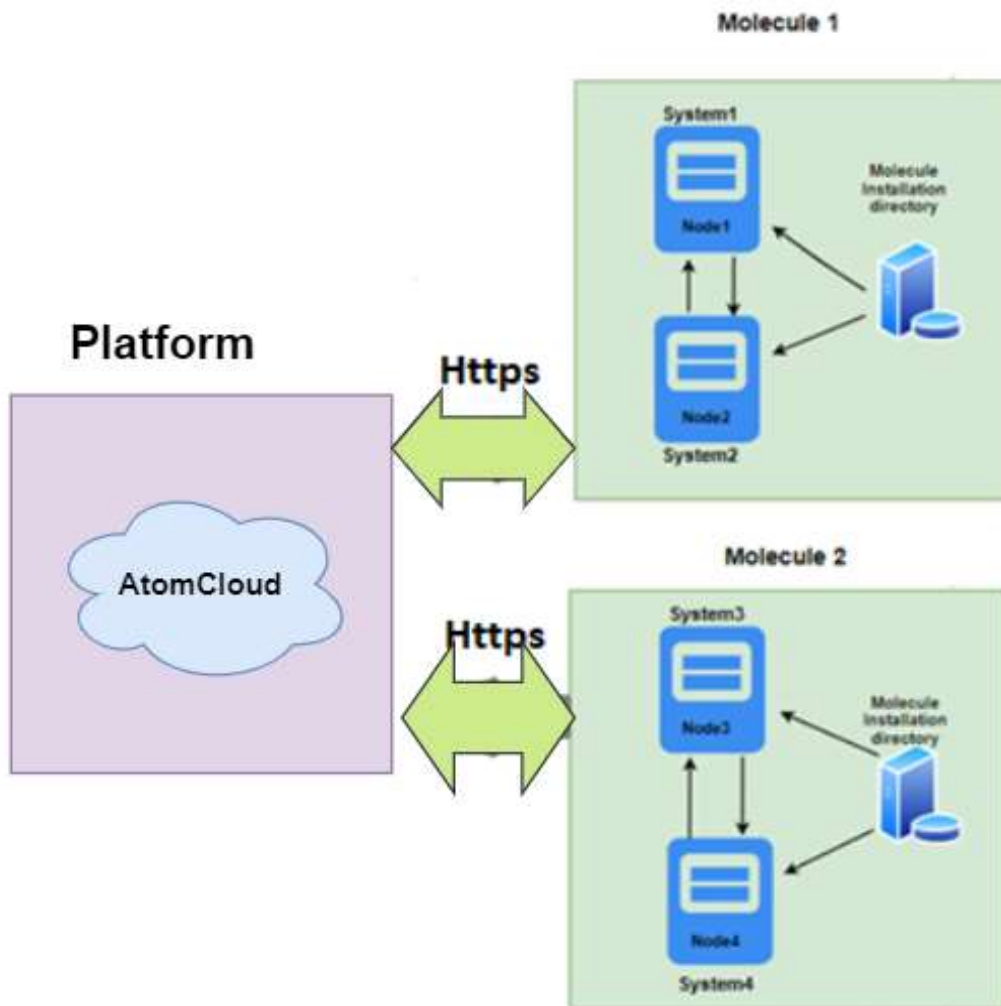
What is Molecule?

- A Molecule is a single-tenant, clustered atom that allows multiple atom processes to run concurrently.
- It consists of multiple nodes that are installed on multiple on-premise systems. The nodes are grouped together to form molecule.
- Molecule supports integrations that will generate and receive high volume of data.



What is Atom Cloud?

- Atom cloud is a multitenant, multiple-node runtime engine. An atom cloud is similar to a molecule.
- It consists of one or more cloud molecules installed on multiple machines.
- The cloud molecules on the machines are grouped together to form the atom cloud.



Atom vs Molecule vs Atom Cloud

Atom	Molecule	Atom Cloud
It is a single tenant runtime engine which means it cannot be used by multiple accounts.	It is a single tenant clustered run time engine which means it cannot be used by multiple accounts.	It is a multi-tenant clustered engine which means it can be used by multiple accounts.
Atoms must be installed and managed by the user	Molecules must be installed and managed by the user	You don't have to install any software as Boomi will manage everything.
If any of the integration endpoints are within a corporate firewall, such as a database, file system directory or other on-premise applications, can prefer atom.	If an integration wants to have a highly availability solution and provide load balancing, failover or if you want to change your execution processing time, go with molecule.	If an integration includes connecting resources or applications via internet such as web applications, you can choose an Atom Cloud
Atom do not support external load balancing.	Molecules support load balancing	For atom cloud, we use atom workers for load balancing
It does not support forked execution.	It supports forked execution. By default, forked execution is disabled in molecule.	By default, it uses forked execution
Multi-threading is not possible in atom.	We can use flow control shape in molecule and perform multi-threading.	Multi-threading is possible in Atom Cloud.
Atom comes with base pro and pro plus subscription	Molecule comes with enterprise and enterprise level subscription	Atom cloud comes with all level of subscriptions but cost will vary based on data inflow and outflow
Atom do not support atom worker	Atom worker is not supported in molecule	Atom workers can be configured in atom cloud

Reference link: https://help.boomi.com/bundle/integration/page/int-Atoms_Molecules_and_Atom_Clouds.html



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At TGH, we specialize in driving digital transformation through seamless Integration Technologies.

Operating as an INTEGRATION FACTORY, we serve as a one-stop shop for all your integration needs. Our expert team is well-versed in enterprise software and legacy system integration, along with leading iPaaS technologies like Boomi, MuleSoft, Workato, OIC, and more.

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