

2.3.2.4 Private Networks

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A **private network** limits access to the network to individuals or nodes granted and verified to have permission to participate in joining, leaving, reading, writing, and auditing activities on the network. A participant joins a private network only through an authentic and verified invitation; validation is performed either by the network operator(s) or using a clearly defined set of protocols implemented by the network¹⁾. Recently, the idea that a Private Network is secure has been seriously challenged by the **Zero Trust Security Model** which basically states that establishing a secure perimeter is not enough to establish a trust to the individual or the machine. Especially with the advent of cloud-based architectures.

Benefits of Private Networks

- **Enterprise Permissioned²⁾:**
The enterprise controls the resources and access to the blockchain, hence private and/or permissioned.
- **Faster Transactions³⁾:**
When you distribute the nodes locally, but also have far fewer nodes that participate in the ledger, performance is faster.
- **Better Scalability⁴⁾:**
Being able to add nodes and services on demand can provide a great advantage to the enterprise.
- **Compliance Support⁵⁾:**
As an enterprise, you would likely have compliance requirements to adhere to; having control of your infrastructure enhances ability to satisfy this requirement more seamlessly.
- **Consensus More Efficient (fewer nodes)⁶⁾:**
Enterprise or private blockchains have fewer nodes and usually a different consensus algorithm, such as BFT vs PoW.

¹⁾
"Public, Private, Permissioned **blkchn** Compared", Shobhit Seth, Investopedia, 10 April 2018,
<https://www.investopedia.com/news/public-private-permissioned-blockchains-compared/>

²⁾ , ³⁾ , ⁴⁾ , ⁵⁾ , ⁶⁾

"Public Vs Private Blockchain In A Nutshell", Demiro Massessi, 12 December 2018,
<https://medium.com/coinmonks/public-vs-private-blockchain-in-a-nutshell-c9fe284fa39f>

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