



**Competitive Edge Technology**  
The Human Resource Consulting Division  
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HOLOCHAIN & WEB3 for HR - ANALYSED by  
ARTIFICIAL INTELLIGENCE

# 6.0 NETWORK OPERATION & GOVERNANCE

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## 6.0 NETWORK OPERATION & GOVERNANCE



### 6.1 What role does a governance group play in a Holochain network

#### ChatGPT Response

In a Holochain network, a governance group plays a vital role in managing and making decisions related to the network and its resources. Here are the key roles and responsibilities of a governance group in a Holochain network:

- a) **Network Rules and Parameters:** The governance group defines and enforces the rules, parameters, and protocols that govern the network. This includes setting parameters such as transaction fees, resource allocation, data storage limits, consensus mechanisms, and other network-specific rules.
- b) **Consensus and Decision-making:** The governance group facilitates the consensus and decision-making process within the network. They may employ various mechanisms such as voting, signaling, or deliberative processes to reach consensus on network upgrades, protocol changes, or any other significant decisions that impact the network as a whole.
- c) **Network Upgrades and Evolution:** As the Holochain network evolves, new features, enhancements, and bug fixes may need to be implemented. The governance group oversees the process of proposing, reviewing, and approving network upgrades. They ensure that the changes align with the network's vision, security, and sustainability.
- d) **Community Engagement and Participation:** The governance group actively engages with the community to foster participation, collaboration, and feedback. They encourage community members to contribute ideas, suggestions, and improvements to the network. They also play a role in coordinating and managing community-driven initiatives, development efforts, and third-party integrations.
- e) **Conflict Resolution:** In decentralized networks, conflicts may arise between participants. The governance group serves as a mediator or arbitrator in resolving disputes or conflicts that affect the network. They establish transparent and fair processes to address disagreements and maintain the integrity and stability of the network.
- f) **Security and Compliance:** The governance group ensures the security and compliance of the network by implementing measures to protect against malicious activities, vulnerabilities, and other risks. They may define security standards, conduct audits, and collaborate with security experts to identify and mitigate potential threats to the network.

- g) **Economic and Incentive Structures:** Holochain networks often involve economic models and incentive structures to incentivize participation, contributions, and resource allocation. The governance group designs and oversees these economic mechanisms, ensuring they are fair, sustainable, and aligned with the network's goals and values.

It's important to note that the specific roles and responsibilities of a governance group may vary depending on the governance model adopted by the Holochain network. Governance in Holochain can be highly customizable, allowing networks to experiment with different decision-making processes and structures that suit their specific needs and values.

## 6.2 What must a company receive from the network governance group in order to join a Holochain network?

### ChatGPT Response

The specific requirements for companies to join a Holochain network can vary depending on the governance model and access control protocols established by the network.

In general, to join a Holochain network, a company would need to receive an invitation from the network governance group or a member of the network. The invitation would typically include instructions on how to download and install the necessary software, as well as any required identity and access credentials.

Once the company has completed the installation and identity verification process, it can connect to the network and start participating in data sharing and validation activities.

However, it's important to note that the specific requirements for joining a Holochain network can vary depending on the network's governance model and security protocols. For example, some networks may require additional identity verification steps or may restrict access to certain data or features based on a company's level of participation or contribution to the network.

## 6.3 What Human Resource Associations around the world would you recommend to form a governance group for a Holochain global network

### ChatGPT Response

When forming a governance group for a Holochain global network, it would be beneficial to collaborate with established Human Resource (HR) associations that have a global reach and influence. Here are a few prominent HR associations around the world that you may consider engaging with:

- a) **Society for Human Resource Management (SHRM):** SHRM is one of the largest HR associations globally, representing over 300,000 members in more than 165 countries. It provides resources, certifications, and networking opportunities for HR professionals. Collaborating with SHRM can bring significant expertise and credibility to your governance group.
- b) **World Federation of People Management Associations (WFPMA):** The WFPMA is an international federation that brings together HR associations from various countries. It includes prominent HR associations like the Society for Human Resource Management (SHRM), Chartered Institute of Personnel and Development (CIPD), and others. Engaging with the WFPMA can provide access to a diverse network of HR professionals globally.
- c) **Chartered Institute of Personnel and Development (CIPD):** CIPD is a professional body for HR and people development based in the United Kingdom. It offers certifications, research, and resources for HR professionals worldwide. Collaborating with CIPD can provide valuable insights and expertise from a leading HR association.
- d) **Australian Human Resources Institute (AHRI):** AHRI is the national association for HR professionals in Australia. It represents the interests of HR practitioners and provides resources, certifications, and

events. Partnering with AHRI can bring insights from the Australian HR community and connect with HR professionals in the region.

- e) **Canadian Council of Human Resources Associations (CCHRA):** CCHRA is an alliance of provincial HR associations in Canada. It represents HR professionals across the country and sets standards for the HR field. Collaborating with CCHRA can provide access to Canadian HR expertise and networks.
- f) **European Association for People Management (EAPM):** EAPM is a network of HR associations and professionals in Europe. It promotes the exchange of knowledge and best practices in HR management. Engaging with EAPM can help connect with HR leaders and associations across Europe.

It's important to note that while these associations are prominent in the HR field, their interest and involvement in a Holochain global network would depend on their strategic alignment and willingness to explore emerging technologies. Approach these associations with a clear value proposition and demonstrate how the Holochain network can benefit HR professionals and advance the field of HR management.

## 6.4 Is it possible to set up a Holochain network without the involvement of Holo

### ChatGPT Response

Yes, it is possible to set up a Holochain network without the involvement of Holo. Holo is an organization that provides hosting infrastructure and services for decentralized applications built on the Holochain platform, but it is not a requirement to set up a Holochain network.

Here are a few points to consider when setting up a Holochain network without involving Holo:

- a) **Self-Hosting:** You can choose to host your own Holochain applications on your own infrastructure. Holochain provides the necessary tools, libraries, and documentation for building and deploying decentralized applications. By self-hosting, you have full control over the network and the hosting environment.
- b) **Peer-to-Peer Networking:** Holochain utilizes a peer-to-peer (P2P) networking architecture, which means that individual nodes in the network communicate directly with each other without relying on a central server or intermediary. You can set up a network of nodes that run the Holochain framework and connect them to form a decentralized network.
- c) **Network Governance:** Without Holo, you would need to establish your own governance mechanisms for managing the network and making decisions collectively. This can involve defining network rules, establishing consensus mechanisms, and implementing decision-making processes within the community or organization that operates the network.
- d) **Community and Collaboration:** Building and maintaining a Holochain network without Holo may require more active community engagement and collaboration. You can foster a community of developers, users, and stakeholders who contribute to the network's growth, development, and sustainability.
- e) **Network Resources and Funding:** Consider how you will allocate and manage network resources, such as computing power, storage, and bandwidth. You may also need to explore alternative funding models to support the network's infrastructure and maintenance costs if you are not leveraging Holo's revenue-sharing model.

While Holo provides a convenient option for hosting and operating Holochain applications, it is not the only way to set up and run a Holochain network. By self-hosting and establishing your own governance and infrastructure, you can have more control and autonomy over the network's operations. However, it's important to carefully consider the technical and operational challenges involved in setting up and maintaining a decentralized network on your own.

## 6.5 How do I set up a governance function for members of a Holochain network

### ChatGPT Response

Holochain is designed to support decentralized governance of its network, which means that members of the network can participate in decision-making processes that affect the network's operation and evolution. To set up a governance function for members of a Holochain network, you can follow these general steps:

- a) **Define the governance structure:** The first step in setting up a governance function is to define the governance structure for the network. This involves deciding on the roles, responsibilities, and decision-making processes for members of the network. You should consider factors like the size and complexity of the network, the types of decisions that need to be made, and the level of participation you want to encourage.
- b) **Implement the governance rules in the DNA code:** Once you have defined the governance structure, you need to implement the governance rules in the DNA code for your Holochain application. This involves writing the rules and functions that allow members of the network to participate in the decision-making process. You may need to consult the Holochain documentation or seek the assistance of a developer to implement the necessary code.
- c) **Test and deploy the application:** After implementing the governance rules, you need to test and deploy the Holochain application to the network. This involves creating a new DNA instance and deploying it to the nodes in the network. You should test the application thoroughly to ensure that the governance rules work as intended and that members of the network can participate in the decision-making process.
- d) **Establish a process for governance decisions:** Finally, you need to establish a process for governance decisions. This may involve creating a proposal system, where members of the network can propose changes or decisions and vote on them. Alternatively, you may choose to have a more informal process, where members can participate in open discussions and make decisions through consensus-building.

Overall, setting up a governance function for a Holochain network requires careful planning, implementation, and testing. By following these steps, you can create a network that supports decentralized decision-making and fosters collaboration and participation among its members.

## 6.6 How does a client reach other clients on a Holochain network

### ChatGPT Response

In a Holochain network, clients can reach other clients through a process called "peer discovery". Peer discovery is the mechanism by which nodes in the network find and connect to each other.

When a client joins the Holochain network, it sends a request to the network to find other nodes that are running the same application. This request is broadcast to other nodes on the network, which respond with information about themselves, including their IP address, port number, and the application instance they are running. This information is stored in the client's local "peer cache", which maintains a list of all the nodes that the client can connect to.

Once a client has a list of available nodes, it can establish a connection to one or more of them using a secure protocol like WebSockets or HTTP. Once the connection is established, the client can exchange data and messages with other nodes in the network.

Holochain uses a peer-to-peer (P2P) network architecture, which means that there is no central server or authority that controls the network. Instead, each client in the network has equal status and can



participate in the network's governance and decision-making processes. This distributed architecture allows for greater scalability, resilience, and privacy than traditional centralized networks.

## 6.7 Can anyone host a Holochain network

### ChatGPT Response

Yes, anyone can host a Holochain network. One of the key features of the Holochain framework is its peer-to-peer architecture, which allows individual participants to host and run their own instances of Holochain applications.

When you participate in a Holochain network, you become a part of the distributed network infrastructure. As a host, you contribute your computing resources to store and process data for the Holochain applications you choose to run. By hosting an application, you help maintain the integrity and availability of the decentralized network.

To host a Holochain network, you typically need to install the necessary software and configure it according to the specific requirements of the Holochain application you intend to run. The exact process may vary depending on the application and its deployment instructions.

It's important to note that hosting a Holochain network requires technical proficiency and the ability to manage the infrastructure and resources needed for running the application. Additionally, hosting may involve considerations such as connectivity, security, and data storage.

If you're interested in hosting a Holochain network, I recommend referring to the official Holochain documentation, joining the Holochain community forums, or reaching out to the Holochain Foundation for guidance and support. They can provide you with the necessary resources and assistance to get started with hosting a Holochain network.

## 6.8 How does a Holochain network governance group withdraw network membership for a client?

### ChatGPT Response

The process for withdrawing network membership for a client in a Holochain network would depend on the specific governance model and protocols established by the network.

In general, the governance group would need to follow the established procedures for removing a client from the network, which might involve a review process, a vote, or other decision-making mechanisms depending on the network's structure.

Once a decision has been made to withdraw the client's membership, the governance group would typically notify the client and provide instructions for how to leave the network. This might involve revoking the client's access credentials or disabling their node within the network.

It's important to note that withdrawing network membership for a client is a serious decision that should only be taken after careful consideration and in accordance with the established governance procedures of the network. The Holochain framework is designed to be flexible and adaptable to a variety of network structures and governance models, which can help to ensure that the network remains secure, resilient, and trustworthy.

## 6.9 Is it possible to allocate companies an identity and any other credentials prior to joining a Holochain network?

### ChatGPT Response

Yes, it is possible to allocate companies an identity and other credentials prior to joining a Holochain network. In fact, one of the advantages of Holochain is its flexibility in terms of identity management and access control.

Holochain applications can define their own identity and access management protocols, which can be customized to meet the specific needs of the application and its users. This allows companies to establish their own unique identity and credentials that can be verified by the network prior to joining.

For example, a Holochain application might require that companies provide certain identifying information, such as a company name, address, and tax identification number, in order to join the network. Additionally, the application might require that companies provide additional credentials, such as proof of insurance or a business license, in order to access certain features or data within the network.

By establishing these identity and access controls prior to joining the network, Holochain applications can help to ensure the integrity and security of the network while also providing a seamless user experience for participating companies.

### 6.10 Are governance smart contracts DNAs

#### ChatGPT Response

In Holochain, DNAs (Distributed Network Applications) are not necessarily the same as governance smart contracts, although they can include smart contract code to define rules and logic for governing the behavior of the application.

DNAs are collections of code and data that define a specific application and its logic, including zones, which are modular units of functionality that can be shared across different applications. DNAs specify how agents can interact with each other and with the data in the network.

On the other hand, governance smart contracts are specific types of smart contracts that are designed to define and enforce rules and processes for decentralized organizations. These smart contracts can be integrated into DNAs or other types of decentralized applications to enable decentralized decision-making and management of resources.

### 6.11 Are there any opponents of the Holochain framework or network

#### ChatGPT Response

As with any technology or framework, there are varying opinions and perspectives on the Holochain framework and network. While Holochain has its proponents and supporters who believe in its potential to create scalable, decentralized applications, there may also be individuals or groups who hold different views or have concerns about its approach or implementation.

Some common criticisms or concerns raised about Holochain or similar frameworks include:

- a) **Scalability:** Critics argue that while Holochain claims to provide scalability by running applications on individual nodes, the scalability may still be limited compared to traditional centralized systems or certain blockchain architectures.
- b) **Centralization of hosting:** Some critics argue that the hosting infrastructure of Holochain, such as the Holo hosting ecosystem, may lead to centralization if a few large hosts dominate the network, potentially undermining the decentralization goals.
- c) **Adoption and network effects:** Critics may question the adoption and network effects of Holochain applications, as the technology is still relatively new and needs widespread adoption to reach its full

potential. They may raise concerns about the challenges in achieving critical mass and attracting a sufficient user base.

- d) **Technical complexity:** Holochain has a unique architecture and programming model, which can be seen as complex or challenging for developers who are more familiar with traditional centralized systems or other blockchain frameworks.

It's important to note that criticisms and concerns should be evaluated in the context of ongoing development and improvements within the Holochain ecosystem. Understanding different perspectives and engaging in discussions can help to foster innovation and address potential limitations of any technology.

## 6.12 Can Holochain network hosts charge other self-hosted networks to connect to their network?

### ChatGPT Response

Yes, it is technically possible for Holochain network hosts to charge other self-hosted networks to connect to their network. However, the specifics of how this would work would depend on the specific implementation and governance of the Holochain network.

In a decentralized network like Holochain, the decision to charge for network connections would need to be agreed upon by the network's governance group or other decision-making body. Additionally, the technical implementation of how network hosts would charge for these connections would also need to be determined.

It's also worth noting that charging for network connections may not necessarily align with the decentralized and collaborative ethos of the Holochain ecosystem. In general, Holochain emphasizes building networks that prioritize cooperation, sharing, and mutual benefit among its participants. Charging for network connections could potentially create barriers to entry for some participants and limit the potential benefits of collaboration and cooperation within the network.

Overall, while it may be technically possible for Holochain network hosts to charge for network connections, it's important to consider the potential impact on the network's values and overall ecosystem before implementing such a model.

## 6.13 Can you give me a roadmap to set up a Holochain network with 1,000+ participants, create a governance function to set up rules, and import data on a csv file for participant's children nodes

### ChatGPT Response

Yes, I can provide a high-level roadmap for setting up a Holochain network with 1,000+ participants, creating a governance function to set up rules, and importing data from a CSV file for participant's children nodes. Please note that this is a complex process that will require careful planning and implementation. You may want to seek out experienced Holochain developers or training resources to help you get started.

Here is a general roadmap for setting up a Holochain network with 1,000+ participants, creating a governance function to set up rules, and importing data from a CSV file:

- a) **Define the network architecture:** The first step is to define the architecture of your Holochain network, including the number of nodes, the topology of the network, and the roles and responsibilities of each node. You will also need to consider how data will be stored, synchronized, and shared across the network.
- b) **Develop the Holochain application:** The next step is to develop the Holochain application that will run on the network. This will involve designing the data schema, creating the DNA code, and implementing the necessary validation rules and data synchronization logic.

- c) **Set up the governance function:** Once the Holochain application is developed, you will need to set up a governance function to define the rules and policies that will govern the behavior of the network participants. This may involve creating smart contracts or other software components to enforce the rules and policies.
- d) **Invite participants to join the network:** With the governance function in place, you can invite participants to join the Holochain network. This may involve providing them with the necessary connection details, such as the network address and port number.
- e) **Import data from a CSV file:** Once the participants have joined the network, you can import data from a CSV file for their children nodes. This will involve converting the CSV file to a compatible format, parsing the data, creating new entries in the DHT, and validating the data.
- f) **Test and refine the network:** Finally, you should test the Holochain network with 1,000+ participants, refine the governance function and the application as necessary, and optimize the network performance and scalability.

Overall, setting up a Holochain network with 1,000+ participants, creating a governance function to set up rules, and importing data from a CSV file is a complex process that will require careful planning and implementation. You may want to seek out experienced Holochain developers or training resources to help you get started.

## 6.14 How could a governance set of rules be enforced if Holochain does not follow a traditional tree structure

### ChatGPT Response

In Holochain, governance and rule enforcement can be achieved through various mechanisms and patterns, even though it does not rely on a traditional tree structure. Here are a few approaches to enforcing governance rules in a Holochain network:

- a) **Validation Rules:** Each node in a Holochain network can define its own validation rules for accepting or rejecting data. These rules can encompass governance-related criteria, such as verifying the authenticity of transactions, enforcing compliance with specific protocols or standards, or implementing specific business logic. Nodes can enforce these validation rules to ensure that the data they accept aligns with the desired governance principles.
- b) **Shared Protocols and Agreements:** Governance rules can be enforced through shared protocols and agreements among network participants. Nodes can agree upon and adhere to certain rules, standards, or protocols for data exchange, access permissions, or decision-making processes. By collectively agreeing to these principles, nodes can collaborate and interact based on the established governance framework.
- c) **Reputation Systems:** Reputation systems can play a role in governing behavior within a Holochain network. Nodes can assign reputation scores to other nodes based on their observed actions, contributions, or adherence to agreed-upon rules. These reputation scores can influence interactions and decision-making processes within the network, enabling nodes to trust and rely on those with higher reputations.
- d) **Distributed Governance Models:** Holochain supports the development of distributed governance models where decisions are made collectively by network participants. Nodes can engage in processes like consensus building, voting, or deliberation to make decisions that affect the network. Decentralized applications built on Holochain can incorporate specific governance mechanisms tailored to their needs.
- e) **Application-Specific Rules:** Holochain allows for the creation of application-specific rules and logic. Developers can design governance mechanisms within their applications that align with the desired rules and structures. These rules can include permissions, access controls, or decision-making processes specific to the application's context.

It's worth noting that Holochain's flexibility allows developers and communities to design governance systems that suit their specific requirements. The decentralized and agent-centric nature of Holochain empowers participants to contribute to governance processes, shape rules, and collectively enforce them without relying on a traditional tree structure.

### 6.15 Should a Holochain network tree structure start at the top or the bottom of the tree

#### ChatGPT Response

In a Holochain network, the concept of a "tree structure" does not apply in the traditional sense. Holochain is designed as a peer-to-peer network where nodes interact with each other directly without the need for a hierarchical structure.

In Holochain, each node is considered equal and autonomous, and they communicate with other nodes in a decentralized manner. Nodes connect with each other using protocols like Distributed Hash Tables (DHTs), where they maintain their own local copies of data and communicate directly with other nodes based on content addressing.

Instead of having a centralized or hierarchical tree structure, Holochain applications often utilize distributed patterns like DHTs or other techniques to enable efficient data sharing and retrieval among nodes.

It's important to note that while Holochain doesn't inherently follow a tree structure, individual applications built on top of Holochain might incorporate hierarchical structures or organization based on their specific requirements. However, this would be an application-specific design choice rather than a fundamental aspect of the Holochain network itself.