



Questions and Answers

1. **Why must you use the service model when editing a Utility Network in ArcGIS Pro? Is there any way to edit the Geodatabase Feature Classes directly?**

The utility network uses Branch Versioning which is managed through the services. Editing the feature classes directly via database connection is not recommended.

2. **Do the ArcGIS solutions related to utilities allow network tracing? Or is that strictly a capability of the Utility Network?**

The Data Management Solutions for utilities do not provide tracing functionality. If you want tracing the utility network is what you need.

3. **Do you have any good training or documentation for building associations or containers within the UN?**

Building containers and associations is covered in the training course [Working with Utility Networks in ArcGIS](#).

4. **Are there any documents on using Trace Networks and/or Utility Networks in an Enterprise Geodatabase without Portal?**

The Utility Network requires Portal.

5. **Is the Utility Network model supported with ArcGIS Pro 3.0?**

Yes, currently it is recommended you deploy the UN with ArcGIS Enterprise 10.9.1 and ArcGIS Pro 2.9.x but the next release of the utility network will be for Enterprise 11 and ArcGIS Pro 3.0.

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6. **What option do small utilities have without Enterprise have moving forward for sharing online? Since the geometric network can't be edited in Pro, and the UN can't be shared without Enterprise, what do people do use that just have Pro and AGOL?**

The data management solutions in AGOL provide full Web GIS capabilities for smaller organizations. You can create and share web maps and apps, create dashboards, and perform mobile GIS workflows in the field, and use the rest of the capabilities of AGOL. Currently this option does not provide connectivity rules or tracing. Some basic tracing functionality is being developed for the data management solutions but that will be down the road. Another option is to deploy a UN locally in a FGDB to get tracing and network management on the desktop and then also publish data layers to AGOL to be shared or used in the field. This won't give you tracing in web apps or Field Maps but will give you tracing and network connectivity rules on the desktop. This is akin to what you had before with geometric networks.

7. **Can we develop web apps on top of Utility Network? Please advise how it is possible.**

Yes, the utility network features services behave in web apps just as any other feature services from ArcGIS Enterprise.

8. **Can we receive the data readiness assessment document to assess our data?**

The data readiness assessment is a service and deliverable provided by Esri Professional Services. Please reach out to your Esri Account Manager to discuss your options.

9. **What is the best way to get in contact with Esri consulting to review utility network deployment?**

Please reach out to your Esri Account Manager to discuss your options.

10. **How do I get those Tasks like "Water Distribution Data Management"?**

The tasks are included in the ArcGIS Pro Project Package that is deployed to your AGOL organization when you deploy the Water Distribution Utility Network Foundation solution.

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11. Can we edit utility network using branch versioning and other layers, traditional versioning, in a single ArcGIS Pro project?

Yes, branch versioned data and traditional versioned data can be added to the same Pro Project.

12. Our current network is shared by other agencies, and therefore we have disconnected data, individual networks, so to speak. Does that mean we won't be able to share our data container like we do now once in the UN?

I am not sure based on the details I have here. Please reach out to your Esri Account Manager and ask to set up a meeting with a Solution Engineer from the Water team to go over your existing setup and discuss your options.

13. Does a utility network provide any value outside tracing?

Please see our technical paper [Understanding the Utility Network: A Guide for Water Utilities](#) for a discussion on benefits of the utility network. Also, see the recording of the first webinar in this series and reach out to your Esri Account Manager to setup a meeting to discuss UN capabilities.

14. How am I going to work with my ArcFM enabled data in ArcGIS Pro using Utility network?

Schneider has developed ArcFM tools that work with the utility network in ArcGIS Pro.

15. Do you think that the foundation solution for distribution water is enough for a small water utility?

See the recording of the first webinar in the series for a discussion of the Data Management solutions vs the Utility Network Foundation solutions. Also, reach out to your Esri Account Manager if you want to discuss further.

16. Is UN going to work in ArcGIS Enterprise?

The utility network works in and does require ArcGIS Enterprise.

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17. Is UN going to work in ArcGIS Online?

UN services from ArcGIS Enterprise can be shared to ArcGIS Online. However, a UN cannot be housed only in ArcGIS Online. In the coming years you may see some functionality of the UN make its way into AGOL such as attribute rules and basic traces but that is down the road. I can't say exactly when.

18. Do you plan to align the UN Data model with the ASCE standard guidelines for Recording and Exchanging Utility Infrastructure Data (ASCE/UESI/CI 75-22).

I am not aware of any plans to make major changes to the UN data models as they are now. That said, any attribute fields not present in the UN data model that are included in the ASCE standard can be added if needed. Positional accuracy information from the ASCE standards would also be additional to the UN data models and could be added.

19. What is the level of dedication of staff needed to this effort? Is it a 100% UN focus? 80% UN focus? Is it dependent upon outside consultant help? Would you say that your in house GIS person leading you through this process becomes 80% dedicated to UN management and maintenance into the future?

For initial migration to the UN, this would depend on your number of staff and your time window. Once the UN is deployed then the level of effort to maintain the data should be on par with your GIS staff's current LOE. I would reach out to your Esri Account Manager and setup a meeting to discuss your options for professional services and partners that could assist in the deployment of the UN.

20. To trace the utility network, do I need the UN extension or not with as a simple Viewer?

To trace the utility network, you need the UN extension with a Viewer user type.

21. What's the criteria in terms of number of users for a medium size utility?

In Enterprise you will need users for anyone who will interact with your GIS data, maps, and apps. You need UN user type extensions for anyone who will trace or edit the network.

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22. When you say to stand up a development environment, how is the dev environment licensed? I.E. What are the costs related to that and what is the cheapest (yet effective) option?

If you have an Esri EA or SUEA you are covered for the dev environment. Otherwise, the best option is an EDN Subscription – Professional. Contact your Esri account manager to get a price quote.

23. Are these floating licenses?

The Utility Network User Type Extensions are assigned to individual users in Portal. The Enterprise (Portal) admin controls who they are assigned to and can assign and unassign those licenses as needed. They are not floating in that the users themselves cannot assign the licenses (unless they are an admin).

24. How does this work with floating ArcGIS Pro licensing?

The Utility Network User Type Extensions are assigned to individual users in Portal. The Enterprise (Portal) admin controls who they are assigned to and can assign and unassign those licenses as needed. Users would need the user type extension assigned to their user regardless of if they are using floating or standalone Pro licenses.

25. Where does the Utility Network licensing come in? Is there licensing for your servers? Desktops? AGOL or Portal per user?

The Utility Network User Type Extensions are assigned to individual users in Portal. The Enterprise (Portal) admin controls who they are assigned to and can assign and unassign those licenses as needed.

26. Would one need a UN license for use in field applications editing activity tables related to feature classes in a UN?

Yes, any user editing data of any kind in a UN needs the user type extension.

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27. Does this come with an ELA or is it an extra cost to utilize?

ELAs typically come with a few UN user type extensions to help you get started. Depending on the size of your organization you may need to add additional UN user type extensions to your EA in future. Contact your Esri account manager and ask how many extensions your ELA currently has.

28. In the geometric network, we have 20-30 fields per feature class that vary between classes. Combining all these point classes into one, is our water device feature class going to have 100 or more fields?

Possibly but not necessarily. In the UN data model features share common fields across subtypes within each feature class. For example, you may have a Install Date field on all your point features. In the Water Device feature class in the UN, they would all use a single Install Date field. Same would apply to Manufacturer or Lifecycle Status as other examples for devices or Diameter for pipe features.

29. Going through the tasks, you add the attribute rules before you publish the utility network feature classes? Can you add/change attribute rules with the feature service still online?

You can add attribute rules before you publish, and you can add/change attribute rules after publishing as well.

30. If the integrations don't exist today, do you recommend building that connection as a part of this UN migration?

If possible yes, or at least plan for the data integration down the road by adding any necessary fields to the UN data model that will be needed to enable the integration later on. During the data migration exercise is also a good time to consider how the features in the GIS will align with data in other systems and make sure there is a structure in place between the two systems that will align. Attempting to align separate systems that lack common identifiers can be difficult to say the least.

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31. What are some of your best lessons learned during the data migration phase?

Do the work in a file geodatabase not in an enterprise geodatabase. If you are doing multiple utility networks, do them one at a time. Fix any data quality issues before you migrate. Get management support and full understanding on what is being undertaken. Stand up a development environment and deploy the UN and all new information products in the new environment.

32. Does the data readiness assessment verify existing data and whether it is ready for the required UN connectivity rules?

The DRA checks for connectivity among features and checks for violations of various other topology rules. It also checks for data gaps such as certain attributes that may be needed. It does not check specifically to see if your data adheres to the UN connectivity rules. During the migration process if it is found that your data violates a rule you will have to assess if the data should be altered or if a new rule is needed to allow for the given scenario.

33. For the UN, do all generic network junctions need to be defined before migration?

You will need a device or junction at any intersection of line features that are not the same asset group/asset type. Line features of the same asset group/asset type and connect without a device or junction point.

34. What's difference between "Data Loading Tools" and ETL in "Utility Network Migration Tools"?

The Data Loading Tools are part of the Esri utility network solution tools. ETL refers to the tools in the Data Interoperability Extension.

35. Can these data loading tools be used for data other than UNs?

Yes, they could.



36. Is the data schema set or customizable?

The data schema is set in that we don't recommend you delete anything from the schema or change coded value domains in the existing schema. However, you can add any additional fields or features you need.

37. Can annotation be migrated into the Utility Network? Also, can we use different symbology?

You can create annotations, but it is not part of the UN. Yes, you can change the symbology.

38. Is there a downloadable schema package?

This would be the asset package that comes with the solution Pro Project.

39. Do we have to change the entire schema to use the Utility Network?

It is recommended that you use one of UN data models. You can add fields and features if needed. Using the provided asset packages provides network rules as well so you don't have to create them all. It is possible to start from scratch and build your own UN on a custom data model, but all the Esri solutions and tools may not work unless you design your custom schema appropriately.

40. What is the future of the Geometric Network? migrating to UN will affect the existing Apps built on top of the GN?

The Geometric Network is tied to ArcMap. Once ArcMap is no longer supported (March 2026) neither will the Geometric Network. Migrating to the UN involves migration to a new data model and standing up new services. Any existing apps will need to be retooled to use the new feature services and data model.

41. How can we use data loading tools to migrate data to UN model?

See the new Learn ArcGIS lesson on using the Data Loading tools.

<https://learn.arcgis.com/en/projects/load-data-into-the-arcgis-utility-network/>

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42. How do you approach ArcGIS Server server sizing for UN? Do you plan to provide any white paper for this as the System Design document is not updated anymore?

ArcGIS Server sizing will depend on the size of your organization and the size of your UN data. It is recommended you start with a minimum of an 8 core ArcGIS Server instance dedicated to your UN services. If you have further questions reach out to your Esri Account Manager and request a meeting to discuss options.

43. Are there tasks to deploy a UN in a file geodatabase as well?

There is not a specific workflow in the tasks, but you can use the tasks for creating a utility network and setting data sources on a FGDB. The tasks are a guide that launch GP tools that can be run independently of the tasks.

44. If we have multiple utility networks, each on a separate database (per previous webinar recommendations), is it suggested to have a dedicated ArcGIS Server (UN) for each database where services will be published from?

This depends on the size of your network and the number of users. Broadly speaking if your network is small and number of users is small then you could have a single dedicated ArcGIS Server for UN services. If the number of users is high and the networks are large you may want dedicated ArcGIS Servers for each UN. I recommend contacting your Esri Account Manager and requesting a meeting to discuss options if you are not sure what is needed for your deployment.

45. When designing the Architecture for UN, does using virtual machine servers change anything? Should the VM server be spread across different VM Hosts?

You can use physical or virtual machines. You just need to have enough cores and RAM dedicated to the various VMs to support your system.

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46. If your database contains multiple client's data, can you use a filter/def query to create separate utility networks?

This would be helpful in situations where data quality is varied and where the data will never fully connect between clients. In theory you could add a field to define what assets belong to the different customers and query them out that way. That said, if the networks don't need to connect to each other then I would keep them separate in their own UNs.

47. Do we need a dedicated UN application server for each Utility network we host (ex.. Water UN, and Electric UN) or can we host the services from two separate UN's on the one server without performance issues?

This depends on the size of your network and the number of users. Broadly speaking if your network is small and number of users is small then you could have a single dedicated ArcGIS Server for UN services. If the number of users is high and the networks are large you may want dedicated ArcGIS Servers for each UN. I recommend contacting your Esri Account Manager and requesting a meeting to discuss options if you are not sure what is needed for your deployment.

48. Can we have ArcGIS Server 10.9.1 for Utility Network and 10.8.1 for the rest of the enterprise?

No, your version of Portal must be newer or the same as your ArcGIS Server instances. You could have a 10.9.1 ArcGIS Server and a 11.0 Portal though.

49. When deploying the solution to a file geodatabase "Dev environment", does the Solution still attempt to start the web services?

You would skip the task step on publishing web services when deploying to a FGDB. It is not done automatically by the solution.

50. Can you share any resources on how to setup a dedicated server just for UN?

The UN requires a full Enterprise deployment with a Portal. When setting up an additional ArcGIS Server and federating it to your existing Enterprise the workflow is not different than

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any other federated ArcGIS Server install. See the ArcGIS Enterprise help page for steps on how to do this.

51. We were informed Esri does not recommend using the Utility Network at Enterprise 10.8.1 but to wait until we are at 10.9. Is that correct and why?

Enterprise 10.9.1 is referred to as the current Network Management Release for the utility network. It contains all the up-to-date UN functionality and has an extended support cycle. <https://www.esri.com/arcgis-blog/products/utility-network/announcements/announcing-the-network-management-release-plan/>

52. Can UN run on Enterprise 11.x?

Yes, but the current recommendation is to stay at 10.9.1 which the network management release. See this blog post <https://www.esri.com/arcgis-blog/products/utility-network/announcements/announcing-the-network-management-release-plan/> That said, you can run your dedicated UN server at 10.9.1 and upgrade you Portal to 11 if desired.

53. What would be the limitations with 10.8.1?

The version of the UN compatible with Enterprise 10.8.1 is not the latest network management release. See this blog post <https://www.esri.com/arcgis-blog/products/utility-network/announcements/announcing-the-network-management-release-plan/>

54. Is the option to leave the separate Utility Network ArcGIS Server on 10.9.1 and upgrade the other ArcGIS Enterprise components to 11 officially supported?

The general rule of thumb is that you can have instances of ArcGIS Server that are older than your Portal (within reason).

55. I'm using Enterprise 11 but the Solutions app doesn't have any of the various Utility Foundations.. are those only going to be available via ArcGIS Online moving forward?

Those are currently available in ArcGIS Online but all you need to do is deploy the UN solution to your ArcGIS Online org then download the solution Pro Project to get started.

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56. For a water utility, does it make sense to have a “Water Distribution” Tier Group with these three tiers underneath: “Water System” (separate cities as subnetworks); “Water Pressure” (pressure planes as subnetworks); “Water Isolation” (isolation groups as subnetworks)?

If the adjacent cities are all connected you don't need to make them separate subnetworks. They could all be part of the System tier. If they are not connected you may want to manage them as separate utility networks. I would request a meeting with your Esri account manager and a solution engineer to discuss the best strategy for your UN deployment.

57. Are certain subtypes in Devices/Junctions pre-defined to be subnetwork controllers?

Certain devices yes. Junctions cannot be subnetwork controllers.

58. Where can get sources to overcome issues with setting up subnetwork environment (terminals, subnetwork controllers, subnetwork tiers)?

See this blog post. <https://www.esri.com/arcgis-blog/products/utility-network/water/water-subnetwork-errors/>

59. What does 'industry standard data models' mean? Does that mean that the UN's data model has interoperability outside the Esri ecosystem?

With the standardization of the UN data model, now partner applications such as asset management systems or water modeling software can build integrations into their software that align with the UN data model since it is a known entity. In the past with everyone having custom data models those integrations had to be custom built case by case.