Background Information

This Site Configuration Worksheet is a work in progress. It has been suggested that once the Worksheet is finalized, that the narrative and the forms should be placed in separate documents. For now, the narrative and forms are in a single document to facilitate review and discussion.

Completing this IT Site Configuration Worksheet is a team effort. It is not likely that any single individual will be able to supply all of the requested information. For example, there may not be a single individual with expertise on both routing protocols (BGP) and Mikrotik configuration.

Note that not every site will have all of the equipment listed here. For example, some sites may not have all three Sectors, and some sites may not have any Point-to-Point links.

Note that our current IP Address Allocation is 44.26.176.0/24 (44.26.176.0 – 44.26.176.255), but we expect to obtain additional contiguous IP Addresses as needed. Note that PSDR (The Puget Sound Data Ring) allocates Public (44.x.x.x) IP Addresses to Client Nodes. Whether we allocate Public or Private IP Addresses to Client Nodes is to be determined.

Site Information

Site Name	
Site Latitude	
Site Longitude	
Site Altitude (Ground Level)	
Emergency Power	
Internet Connectivity	

Sector Information

Note that the table below contains all of the information required to complete the form-based Sector configuration at https://www.oregonhamwan.org/sector-script.html for each of the up to three Sectors.

Refer to the form for the appropriate format for all parameters to determine, for example, whether the IP Address is of the form "44.26.176.33" (a single address), "44.26.176.32/28" (an address and subnet), "44.26.176.33-44.26.176.40" (a range of contiguous IP addresses), or "44.26.176.33,44.26.176.34" (a list of IP addresses).

Use of the form-based Sector configuration is mandatory in order to simplify site configuration and to ensure that our configurations are consistent.

If the form-based Sector Configuration form does not produce a valid / working Sector configuration, it may indicate that our form-based Sector configuration is missing some required parameters, or that the template used by the form-based Sector configuration is incorrect or incomplete, or the commands are not in the correct order, or that extra commands are required to ensure that any residual information is cleared out prior to setting the new configuration.

Note that the Sector ID should be of the form KE7AWR-*Location-direction*, e.g. KE7AWR-OHSU-SE.

Parameter	North (0˚)	SE (120˚)	SW (240˚)
Height on Tower			
Direction if non-standard			

Mikrotik Part Number			
Mikrotik Serial Number			
Oregon HamWAN Asset #			
DHCP Pool Size			
DHCP Pool Shared (Y / N)			
DHCP Pool Public / Private			
Ethernet MAC Address			
WLAN Mac Address			
Sector ID			
Frequency (MHz)			
VRRP IP Address			
Ethernet IP Address			
WLAN IP Address			
DHCP IP Address Pool			
NTP Server Addresses			
DNS Server Addresses			
syslog IP Address			
Network IP Address			

Point-to-Point Information

Note that the table below contains all of the information required to complete the form-based Point-to-Point configuration at https://www.oregonhamwan.org/ptp-script.html for each of the point-to-point links.

Refer to the form for the appropriate format for all parameters to determine, for example, whether the IP Address is of the form "44.26.176.33" (a single address), "44.26.176.32/28" (an address and subnet), "44.26.176.33-44.26.176.40" (a range of contiguous IP addresses), or "44.26.176.33,44.26.176.34" (a list of IP addresses).

Use of the form-based Point-to-Point configuration is mandatory in order to simplify site configuration and to ensure that our configurations are consistent.

If the form-based Point-to-Point Configuration form does not produce a valid / working Point-to-Point configuration, it may indicate that our form-based Point-to-Point configuration is missing some required parameters, or that the template used by the form-based Point-to-Point configuration is incorrect or incomplete, or the commands are not in the correct order, or that extra commands are required to ensure that any residual information is cleared out prior to setting the new configuration.

Note that the Point-to-Point ID should be of the form KE7AWR-*Location-destination*, e.g. KE7AWR-OHSU-MtScott.

Parameter	Point-to-Point 1	Point-to-Point 2	Point-to-Point 3
Height on Tower			

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Destination			
Direction to Destination			
Mikrotik Part Number			
Mikrotik Serial Number			
Oregon HamWAN Asset #			
Ethernet MAC Address			
WLAN Mac Address			
Point-to-Point ID			
Frequency (MHz)			
VRRP IP Address			
Ethernet IP Address			
WLAN IP Address			
NTP Server Addresses			
DNS Server Addresses			
syslog IP Address			
Network IP Address			

Site Router Information

Note that there is not currently a form-based configuration process for the site router, so the configuration probably needs to be specified as a Mikrotik export file.

Parameter	Value	Description
Mikrotik Part Number		
Mikrotik Serial Number		
Oregon HamWAN Asset #		
Ethernet MAC Address		

Server Information

Parameter	Value	Description
Manufacturer & Model		
Serial Number		
Oregon HamWAN Asset #		
Ethernet MAC Address		
IP Address		
Services Offered		

VPN Information

Note that it is mandatory to have a secure mechanism (SSL / SSH) to remotely power-cycle (reboot) and configure on-site equipment. This implies that the mechanism uses the Internet and does not require connection via HamWAN / Amateur Radio. Note that some sites may have a public IPv4 address; while other sites may not have a public IPv4 address. It is not clear whether a single solution can be used for all sites, or whether a different solution is required for sites that don't have a public IPv4 address.

Herb can provide remote access through either a Cisco or a Mikrotik router with a public IPv4 address, provided that the mechanism does not make it possible for VPN users to access Herb's network and servers.

It has been suggested that using RoMON (Mikrotik-proprietary) VPN may be a solution, but it is not clear how this can be accomplished.

One possible solution would be to use a 4G LTE Modem, which for a nominal monthly fee (for a SIM card) could provide external Internet connectivity when used with Dynamic DNS.

Here is information provided by Rob S:

There are a few ways to tackle the problem.

1. Port forwarding from public to private LANs – similar to what you might do at home, IF you have access (or they will do it for you) by the folks who are giving you the private IPs, they could selectively port forward one (or more) ports from the public side of their network connection into your HamWAN gear. Overall, this is do-able but requires coordination with the IT staff giving you the connections, and can likely be an ongoing maintenance headache.
2. IPIP tunnel or VPN connection – If you look at the AMPR website(s) there are two different methods (3 if you count BGP) to connect to the "44 net". The two most commonly used are IPIP tunnels or the newer / somewhat experimental VPN connection. In practice if you can get it going, this would be the best way to do it. Your IPIP or VPN connection can be initiated by the router on the inside and connect to AMPR net and you could conceivably do your return management through the tunnel. That said, if there is a problem with the tunnel, you're cut off.

In reality over the long term, you would want to make use of both methods. It is easier if you control both ends of the connection. As an example – if I lived down there and had a Comcast line at home and had a PTP connection to the HamWAN site, you could do an IPIP or VPN connection out through my home Comcast router. At the same time you could also port forward a few ports to selective pieces of gear. In the event there is a tunnel problem, you could still "remote" into the gear through the port forwards to access and troubleshoot that way. If you have multiple members with Line of Sight to cell sites, this could be a method where (with proper routing) you could have multiple trunks into the network via member "home" internet lines and tunnels. That's getting carried away a bit but the concepts are the same.

The AMPR documentation on https://www.ampr.org and https://portal.ampr.org are good places to start but they definitely could be better quality. I have 2 separate 44 networking blocks I'm working with here at the house – one connected via VPN and the other via IPIP. Both are connected but the documentation on making the routing is weak. I'm still working on it but time has been sparse. The HamWAN connections for Puget Sound are all peer connected to a major ISP via BGP, which isn't an option for many smaller setups. While that's how it works up here, even that isn't documented that well on our end – something that still has to be corrected.

Remote access is still a work in progress.