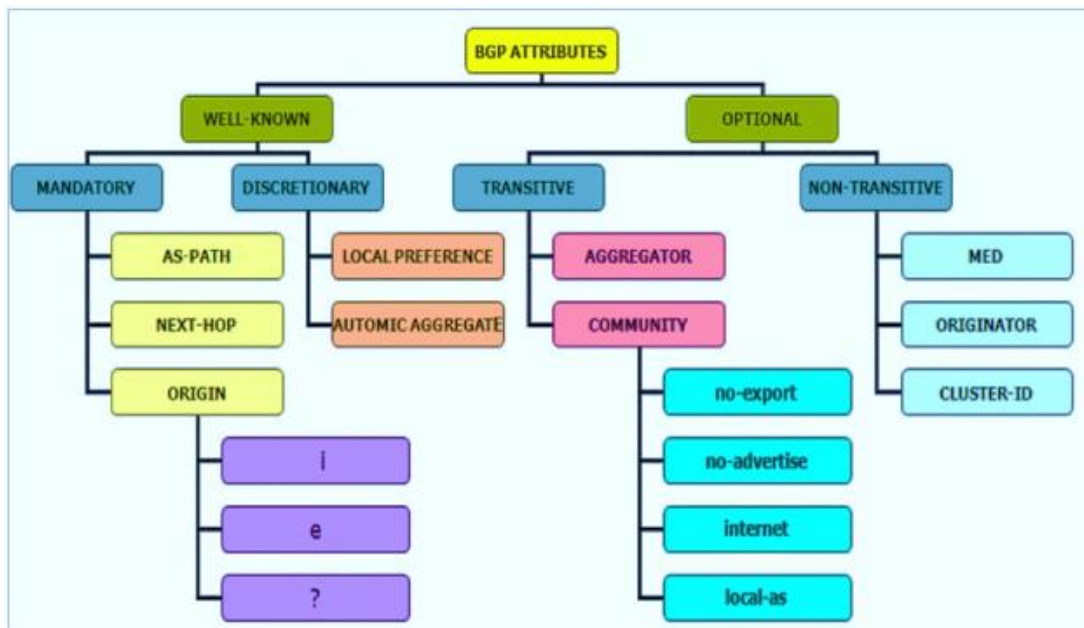


## BGP Attributes:

- o BGP is a very flexible and extensible protocol.
- o BGP path selection is done through the best path algorithm.
- o Best path uses various attributes assigned to each route.
- o BGP attributes are similar to metrics in OSPF and EIGRP.
- o BGP selects the best path based on a list of attributes.
- o BGP use attributes to decide the best route.
- o BGP has 0 to 14 attributes for Cisco.
- o BGP has 1 to 14 attributes for other venders.
- o BGP does not use metrics but use set of attributes.
- o BGP has four main types of attributes.
- o Well-Known Mandatory.
- o Well-Known Discretionary.
- o Optional Transitive.
- o Optional Non-Transitive.



### Well-Known Mandatory:

- o As the name suggests it is mandatory and must.
- o These attribute must appear in every Update message.
- o Must be recognized & supported by all BGP speakers.
- o If these attribute are missing a Notification, error is generated.
- o If these attribute are missing the session will be closed.
- o Well-Known mandatory attributes are AS Path, Next Hop Address, & Origin.

### Well-Known Discretionary:

- o Must be recognized & supported by all BGP speakers.
- o May or may not appear in every BGP Update message.
- o Does not have to be included in every BGP update message.
- o Well-Known Discretionary attributes are Local Preference & Atomic Aggregate.

### Optional Transitive:

- o May or may not be supported by all BGP speakers.
- o Will be passed on if not recognized by the receiver.
- o The attribute should be accepted and passed along to other peers.
- o Optional Transitive attributes are Aggregator and Community.
- o Transitive, these attributes are across AS boundaries.

### Optional Non-Transitive:

- o May or may not be supported by all BGP speakers.
- o Not required to pass on, may be safely ignored.
- o The attribute should be ignored and not passed on to other peers.
- o Optional Non-Transitive attributes are MED, Originator ID and Cluster List.
- o Non-transitive, these attributes are restricted to the same AS.

Type Code	Attribute Name	Category
1	Origin	Well-Known Mandatory
2	AS Path	Well-Known Mandatory
3	Next Hop	Well-Known Mandatory
4	Multi Exit Disc (MED)	Optional Non-Transitive
5	Local Pref	Well-Known Discretionary
6	Atomic Aggregate	Well-Known Discretionary
7	Aggregator	Optional Transitive
8	Community	Optional Transitive
9	Originator ID	Optional Non-Transitive
10	Cluster List	Optional Non-Transitive

