CLAIMS

1. A method of wireless communication of a first node, comprising:

receiving (2206) a semi-static resource allocation from a central unit, CU, based on at least one multiplexing capability of the first node;

communicating (2212) with a second node based on the semi-static resource allocation;

modifying (2210) at least one of a transmission beam or a reception beam based on a local interference measurement; and

transmitting (2214) a change request to the CU to modify the semi-static resource allocation in response to the modifying of at least one of the transmission beam or the reception beam;

wherein the at least one multiplexing capability comprises at least one of Spatial Division Multiplexing, SDM, or Frequency Division Multiplexing, FDM, and wherein the SDM includes at least one of SDM Full Duplex, SDM FD, or SDM Half-Duplex, SDM HD,; and

wherein the at least one multiplexing capability is with respect to one or more transmission direction combinations of the first node.

2. The method of claim 1, further comprising:

transmitting a report to the CU, wherein the report includes the at least one multiplexing capability of the first node or includes at least one multiplexing capability condition for the at least one multiplexing capability of the first node;

wherein the semi-static resource allocation is received based on the report.

3. The method of claim 2, further comprising:

performing the local interference measurement of one or more beams for communicating with the second node; and

wherein the report includes the local interference measurement.

4. The method of claim 3, wherein the at least one multiplexing capability is for SDM FD, and the one or more beams comprise a transmission beam and a reception beam of the first node;

or

wherein the at least one multiplexing capability is for SDM HD, and the one or more beams comprise a plurality of transmission beams of the first node or a plurality of reception beams of the first node.

5. The method of claim 1, further comprising:

receiving, from the CU, one or more resource conditions for using allocated resources of the semi-static resource allocation;

wherein the communicating with the second node is based on the one or more resource conditions.

6. The method of claim 5, wherein the first node is a parent node and the second node is a child node, and wherein the one or more resource conditions identify at least one expected behavior of the parent node with respect to the allocated resources for communicating with the child node;

or

wherein the first node is a child node and the second node is a parent node, and wherein the one or more resource conditions identify at least one expected behavior of the child node with respect to the allocated resources for communicating with the parent node.

7. A method of wireless communication at a central unit, CU, comprising:

transmitting (2506) to a first node a semi-static resource allocation based on at least one multiplexing capability of the first node for communication of the first node with a second node; and

receiving (2516) a change request from the first node to modify the semi-static resource allocation, wherein the change request is received in response to at least a modification of at least one of a transmission beam or a reception beam based on a local interference measurement;

wherein the at least one multiplexing capability comprises at least one of Spatial Division Multiplexing, SDM, or Frequency Division Multiplexing, FDM, and wherein the SDM includes at least one of SDM Full Duplex, SDM FD, or SDM Half-Duplex, SDM HD; and

wherein the at least one multiplexing capability is with respect to one or more transmission direction combinations of the first node.

8. The method of claim 7, further comprising:

transmitting to the second node an indication of the at least one multiplexing capability.

9. The method of claim 7, further comprising:

receiving a report from the first node, wherein the report includes the at least one multiplexing capability of the first node or includes at least one multiplexing capability condition for the at least one multiplexing capability of the first node; and

wherein the semi-static resource allocation is transmitted based on the report.

10. The method of claim 7, further comprising:

transmitting, to the first node, one or more resource conditions for using allocated resources of the semi-static resource allocation;

wherein the communication of the first node with the second node is based on the one or more resource conditions.

11. The method of claim 10, wherein the one or more resource conditions indicate whether the allocated resources are conditional or unconditional for the communication of the first node with the second node.

12. The method of claim 10, wherein the first node is a parent node and the second node is a child node, and wherein the one or more resource conditions identify at least one expected behavior of the parent node with respect to the allocated resources for communicating with the child node;

or

wherein the first node is a child node and the second node is a parent node, and wherein the one or more resource conditions identify at least one expected behavior of the child node with respect to the allocated resources for communicating with the parent node.

13. An apparatus for wireless communication, the apparatus being a first node, comprising:

a memory (2406); and

at least one processor (2404) coupled to the memory and configured to:

receive a semi-static resource allocation from a central unit, CU, based on at least one multiplexing capability of the first node;

communicate with a second node based on the semi-static resource allocation;

modify at least one of a transmission beam or a reception beam based on a local interference measurement; and

transmit a change request to the CU to modify the semi-static resource allocation in response to the modifying of at least one of the transmission beam or the reception beam;

wherein the at least one multiplexing capability comprises at least one of Spatial Division Multiplexing, SDM, or Frequency Division Multiplexing, FDM, and wherein the SDM includes at least one of SDM Full Duplex, SDM FD, or SDM Half-Duplex, SDM HD; and

wherein the at least one multiplexing capability is with respect to one or more transmission direction combinations of the first node.

14. An apparatus for wireless communication, the apparatus being a central unit, CU, comprising:

a memory (2706); and

at least one processor (2704) coupled to the memory and configured to:

transmit to a first node a semi-static resource allocation based on at least one multiplexing capability of the first node for communication of the first node with a second node; and

receive a change request from the first node to modify the semi-static resource allocation, wherein the change request is received in response to at least a modification of at least one of a transmission beam or a reception beam based on a local interference measurement;

wherein the at least one multiplexing capability comprises at least one of Spatial Division Multiplexing, SDM, or Frequency Division Multiplexing, FDM, and wherein the SDM includes at least one of SDM Full Duplex, SDM FD, or SDM Half-Duplex, SDM HD; and

wherein the at least one multiplexing capability is with respect to one or more transmission direction combinations of the first node.

15. A computer-readable medium storing computer executable code, the code, when executed by a processor, causes the processor to perform the method steps of any of claim 1-12.