

R1

AllSPFRouters

R5

ospfv2_vl_over_area1.pcapng

OSPF Hello Packet

Frame 1 | 2020-08-04T21:46:00.056345Z

ID	Source OSPF Router	10.0.0.1
🏠	Area ID	0.0.0.1
	Network Mask	255.255.255.0
	Hello Interval [sec]	10
	Options	0x12, (L) LLS Data block, (E) External Routing
	Router Priority	1
	Router Dead Interval [sec]	40
👑	Designated Router	0.0.0.0
👑	Backup Designated Router	0.0.0.0

OSPF Hello Packet

Frame 2 | 2020-08-04T21:46:07.483814Z

ID	Source OSPF Router	10.0.0.5
🏠	Area ID	0.0.0.1
	Network Mask	255.255.255.0
	Hello Interval [sec]	10
	Options	0x12, (L) LLS Data block, (E) External Routing
	Router Priority	1
	Router Dead Interval [sec]	40
👑	Designated Router	0.0.0.0
👑	Backup Designated Router	0.0.0.0

OSPF Hello Packet

Frame 3 | 2020-08-04T21:46:09.628809Z

ID	Source OSPF Router	10.0.0.1
🏠	Area ID	0.0.0.1
	Network Mask	255.255.255.0
	Hello Interval [sec]	10
	Options	0x12, (L) LLS Data block, (E) External Routing
	Router Priority	1
	Router Dead Interval [sec]	40
👑	Designated Router	0.0.0.0
👑	Backup Designated Router	0.0.0.0
👤	Active Neighbor	10.0.0.5

OSPF DB Description

Frame 4 | 2020-08-04T21:46:09.629442Z

ID	Source OSPF Router	10.0.0.5
🏠	Area ID	0.0.0.1
	Interface MTU	1500
	Options	0x52, (O) Opaque, (L) LLS Data block, (E) External Routing
	DB Description	0x07, (I) Init, (M) More, (MS) Master
	DD Sequence	584

OSPF Hello Packet

Frame 5 | 2020-08-04T21:46:09.62949Z

ID	Source OSPF Router	10.0.0.5
🏠	Area ID	0.0.0.1
	Network Mask	255.255.255.0
	Hello Interval [sec]	10
	Options	0x12, (L) LLS Data block, (E) External Routing
	Router Priority	1
	Router Dead Interval [sec]	40
👑	Designated Router	0.0.0.0
👑	Backup Designated Router	0.0.0.0
👤	Active Neighbor	10.0.0.1

OSPF DB Description

Frame 6 | 2020-08-04T21:46:09.629757Z

ID	Source OSPF Router	10.0.0.1
🏠	Area ID	0.0.0.1
	Interface MTU	1500
	Options	0x52, (O) Opaque, (L) LLS Data block, (E) External Routing
	DB Description	0x07, (I) Init, (M) More, (MS) Master
	DD Sequence	2725

OSPF DB Description

Frame 7 | 2020-08-04T21:46:09.629876Z

ID	Source OSPF Router	10.0.0.1
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R1

AllSPFRouters

R5

Area ID	0.0.0.1
Interface MTU	1500
Options	0x52, (O) Opaque, (L) LLS Data block, (E) External Routing
DB Description	0x02, (M) More
DD Sequence	584
Options	0x22, (DC) Demand Circuits, (E) External Routing
LS Type	Router-LSA (1)
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Options	0x22, (DC) Demand Circuits, (E) External Routing
LS Type	Summary-LSA (IP network) (3)
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Options	0x22, (DC) Demand Circuits, (E) External Routing...
	27 more

OSPF DB Description

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
Interface MTU	1500
Options	0x52, (O) Opaque, (L) LLS Data block, (E) External Routing
DB Description	0x01, (MS) Master
DD Sequence	585
Options	0x22, (DC) Demand Circuits, (E) External Routing
LS Type	Router-LSA (1)
Link State ID	10.0.0.5
Advertising Router	10.0.0.5

OSPF LS Request

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1
Advertising Router	10.0.0.5

OSPF DB Description

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1
Interface MTU	1500
Options	0x52, (O) Opaque, (L) LLS Data block, (E) External Routing
DB Description	0x00
DD Sequence	585

OSPF LS Update

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
LS Age (seconds)	3
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.5
Advertising Router	10.0.0.5
Sequence Number	0x80000001

OSPF LS Request

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1
Advertising Router	10.0.0.1

OSPF LS Update

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1

Frame 8 | 2020-08-04T21:46:09.630317Z

Frame 9 | 2020-08-04T21:46:09.630458Z

Frame 10 | 2020-08-04T21:46:09.63051Z

Frame 11 | 2020-08-04T21:46:09.63089Z

Frame 12 | 2020-08-04T21:46:09.630911Z

Frame 13 | 2020-08-04T21:46:09.631091Z

R1

AllSPFRouters

R5

LS Age (seconds)	923
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000001
LS Age (seconds)	909
LS Type	Summary-LSA (IP network) (3)
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000001
LS Age (seconds)	868
LS Type	Summary-LSA (IP network) (3)...
	33 more

OSPF LS Update

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000002

OSPF LS Acknowledge

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1
Link State ID	10.0.0.5
Advertising Router	10.0.0.5
Sequence Number	0x80000001

OSPF LS Acknowledge

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000001
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000001
Link State ID	10.0.0.2
Advertising Router	10.0.0.1
Sequence Number	0x80000001
Link State ID	10.0.0.3
Advertising Router	10.0.0.1
Sequence Number	0x80000001
Link State ID	10.0.0.4...
	17 more

OSPF LS Update

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.5
Advertising Router	10.0.0.5
Sequence Number	0x80000002

OSPF LS Acknowledge

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1
Link State ID	10.0.0.5
Advertising Router	10.0.0.5
Sequence Number	0x80000002

Frame 14 | 2020-08-04T21:46:10.150258Z

Frame 15 | 2020-08-04T21:46:12.139195Z

Frame 16 | 2020-08-04T21:46:12.139637Z

Frame 17 | 2020-08-04T21:46:12.255185Z

Frame 18 | 2020-08-04T21:46:14.757448Z

R1

AllSPFRouters

R5

👋 OSPF Hello Packet

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10
Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.1

Frame 19 |
2020-08-04T21:46:17.43512Z

👋 OSPF Hello Packet

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10
Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.5

Frame 20 |
2020-08-04T21:46:19.610321Z

👋 OSPF Hello Packet

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.0 (Backbone)
Network Mask	0.0.0.0
Hello Interval [sec]	10
Options	0x32, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0

Frame 21 |
2020-08-04T21:46:20.750862Z

📡 OSPF LS Update

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Summary-LSA (IP network) (3)
Link State ID	10.5.6.0
📡 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001

Frame 22 |
2020-08-04T21:46:20.76296Z

📡 OSPF LS Update

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.5
📡 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000003

Frame 23 |
2020-08-04T21:46:21.269069Z

✅ OSPF LS Acknowledge

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.1
Link State ID	10.5.6.0
📡 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001
Link State ID	10.0.0.5
📡 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000003

Frame 24 |
2020-08-04T21:46:23.270539Z

👋 OSPF Hello Packet

ID Source OSPF Router	10.0.0.1
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Frame 25 |
2020-08-04T21:46:26.269394Z

R1

AllSPFRouters

R5

Area ID	0.0.0.0 (Backbone)
Network Mask	0.0.0.0
Hello Interval [sec]	10
Options	0x32, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
Designated Router	0.0.0.0
Backup Designated Router	0.0.0.0

OSPF Hello Packet

Frame 26 |
2020-08-04T21:46:26.270049Z

Source OSPF Router	10.0.0.5
Area ID	0.0.0.0 (Backbone)
Network Mask	0.0.0.0
Hello Interval [sec]	10
Options	0x32, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
Designated Router	0.0.0.0
Backup Designated Router	0.0.0.0
Active Neighbor	10.0.0.1

OSPF DB Description

Frame 27 |
2020-08-04T21:46:26.273704Z

Source OSPF Router	10.0.0.1
Area ID	0.0.0.0 (Backbone)
Interface MTU	0
Options	0x72, (O) Opaque, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
DB Description	0x07, (I) Init, (M) More, (MS) Master
DD Sequence	2062

OSPF Hello Packet

Frame 28 |
2020-08-04T21:46:26.273885Z

Source OSPF Router	10.0.0.1
Area ID	0.0.0.0 (Backbone)
Network Mask	0.0.0.0
Hello Interval [sec]	10
Options	0x32, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
Designated Router	0.0.0.0
Backup Designated Router	0.0.0.0
Active Neighbor	10.0.0.5

OSPF DB Description

Frame 29 |
2020-08-04T21:46:26.274111Z

Source OSPF Router	10.0.0.5
Area ID	0.0.0.0 (Backbone)
Interface MTU	0
Options	0x72, (O) Opaque, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
DB Description	0x07, (I) Init, (M) More, (MS) Master
DD Sequence	64

OSPF DB Description

Frame 30 |
2020-08-04T21:46:26.274485Z

Source OSPF Router	10.0.0.1
Area ID	0.0.0.0 (Backbone)
Interface MTU	0
Options	0x72, (O) Opaque, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
DB Description	0x02, (M) More
DD Sequence	64
Options	0x22, (DC) Demand Circuits, (E) External Routing
LS Type	Router-LSA (1)
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Options	0x22, (DC) Demand Circuits, (E) External Routing
LS Type	Router-LSA (1)
Link State ID	10.0.0.2
Advertising Router	10.0.0.2
Options	0x22, (DC) Demand Circuits, (E) External Routing...
	51 more

R1

AllSPFRouters

R5

OSPF DB Description

ID	Source OSPF Router	10.0.0.5
🏠	Area ID	0.0.0.0 (Backbone)
	Interface MTU	0
	Options	0x72, (O) Opaque, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
	DB Description	0x01, (MS) Master
	DD Sequence	65
	Options	0x22, (DC) Demand Circuits, (E) External Routing
	LS Type	Router-LSA (1)
	Link State ID	10.0.0.5
🚩	Advertising Router	10.0.0.5
	Options	0x22, (DC) Demand Circuits, (E) External Routing
	LS Type	Summary-LSA (IP network) (3)
	Link State ID	10.0.0.5
🚩	Advertising Router	10.0.0.5
	Options	0x22, (DC) Demand Circuits, (E) External Routing...
		7 more

Frame 31 |
2020-08-04T21:46:26.27488Z

OSPF LS Request

ID	Source OSPF Router	10.0.0.1
🏠	Area ID	0.0.0.0 (Backbone)
🚩	Advertising Router	10.0.0.5
🚩	Advertising Router	10.0.0.5
🚩	Advertising Router	10.0.0.5
🚩	Advertising Router	10.0.0.5

Frame 32 |
2020-08-04T21:46:26.275047Z

OSPF DB Description

ID	Source OSPF Router	10.0.0.1
🏠	Area ID	0.0.0.0 (Backbone)
	Interface MTU	0
	Options	0x72, (O) Opaque, (DC) Demand Circuits, (L) LLS Data block, (E) External Routing
	DB Description	0x00
	DD Sequence	65

Frame 33 |
2020-08-04T21:46:26.275274Z

OSPF LS Update

ID	Source OSPF Router	10.0.0.5
🏠	Area ID	0.0.0.0 (Backbone)
	LS Age (seconds)	6
	LS Type	Router-LSA (1)
	Router LSA	True
	Link State ID	10.0.0.5
🚩	Advertising Router	10.0.0.5
1 2 3 4	Sequence Number	0x80000001
	LS Age (seconds)	6
	LS Type	Summary-LSA (IP network) (3)
	Link State ID	10.0.0.5
🚩	Advertising Router	10.0.0.5
1 2 3 4	Sequence Number	0x80000001
	LS Age (seconds)	6
	LS Type	Summary-LSA (IP network) (3)...
		8 more

Frame 34 |
2020-08-04T21:46:26.275329Z

OSPF LS Request

ID	Source OSPF Router	10.0.0.5
🏠	Area ID	0.0.0.0 (Backbone)
🚩	Advertising Router	10.0.0.1
🚩	Advertising Router	10.0.0.2
🚩	Advertising Router	10.0.0.3
🚩	Advertising Router	10.0.0.4
🚩	Advertising Router	10.0.0.3
🚩	Advertising Router	10.0.0.1
🚩	Advertising Router	10.0.0.1
🚩	Advertising Router	10.0.0.1
🚩	Advertising Router	10.0.0.2
🚩	Advertising Router	10.0.0.3
🚩	Advertising Router	10.0.0.4

Frame 35 |
2020-08-04T21:46:26.275481Z

R1

AllSPFRouters

R5

Advertising Router	10.0.0.3
Advertising Router	10.0.0.4...
	2 more

OSPF LS Update

Source OSPF Router	10.0.0.1
Area ID	0.0.0.0 (Backbone)
LS Age (seconds)	890
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000005
LS Age (seconds)	885
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.2
Advertising Router	10.0.0.2
Sequence Number	0x80000006
LS Age (seconds)	361...
	66 more

Frame 36 |
2020-08-04T21:46:26.275707Z

OSPF LS Update

Source OSPF Router	10.0.0.1
Area ID	0.0.0.0 (Backbone)
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000006

Frame 37 |
2020-08-04T21:46:26.785997Z

OSPF LS Update

Source OSPF Router	10.0.0.1
Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.1
Advertising Router	10.0.0.1
Sequence Number	0x80000003

Frame 38 |
2020-08-04T21:46:26.786164Z

OSPF LS Update

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.5
Advertising Router	10.0.0.5
Sequence Number	0x80000004

Frame 39 |
2020-08-04T21:46:26.786439Z

OSPF LS Update

Source OSPF Router	10.0.0.5
Area ID	0.0.0.0 (Backbone)
LS Age (seconds)	1
LS Type	Router-LSA (1)
Router LSA	True
Link State ID	10.0.0.5
Advertising Router	10.0.0.5
Sequence Number	0x80000002

Frame 40 |
2020-08-04T21:46:26.786589Z

OSPF Hello Packet

Source OSPF Router	10.0.0.5
Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10

Frame 41 |
2020-08-04T21:46:27.283197Z

R1

AllSPFRouters

R5

Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.1

✔️ OSPF LS Acknowledge

Frame 42 |
2020-08-04T21:46:28.776304Z

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.0 (Backbone)
Link State ID	10.0.0.5
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001
Link State ID	10.0.0.5
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001
Link State ID	10.1.5.0
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001
Link State ID	10.5.6.0
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001
Link State ID	10.0.0.5...
	2 more

✔️ OSPF LS Acknowledge

Frame 43 |
2020-08-04T21:46:28.777076Z

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.0 (Backbone)
Link State ID	10.0.0.1
🚩 Advertising Router	10.0.0.1
📄 Sequence Number	0x80000005
Link State ID	10.0.0.2
🚩 Advertising Router	10.0.0.2
📄 Sequence Number	0x80000006
Link State ID	10.0.0.3
🚩 Advertising Router	10.0.0.3
📄 Sequence Number	0x80000007
Link State ID	10.0.0.4
🚩 Advertising Router	10.0.0.4
📄 Sequence Number	0x80000002
Link State ID	10.0.123.3...
	35 more

✔️ OSPF LS Acknowledge

Frame 44 |
2020-08-04T21:46:29.291015Z

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
Link State ID	10.0.0.1
🚩 Advertising Router	10.0.0.1
📄 Sequence Number	0x80000003

✔️ OSPF LS Acknowledge

Frame 45 |
2020-08-04T21:46:29.291299Z

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.1
Link State ID	10.0.0.5
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000004

👋 OSPF Hello Packet

Frame 46 |
2020-08-04T21:46:29.411123Z

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10
Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0

R1

AllSPFRouters

R5

👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.5

← OSPF LS Update

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
LS Age (seconds)	1
LS Type	Summary-LSA (ASBR) (4)
Link State ID	10.0.0.2
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001

Frame 47 |
2020-08-04T21:46:30.758481Z

✓ OSPF LS Acknowledge →

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.1
Link State ID	10.0.0.2
🚩 Advertising Router	10.0.0.5
📄 Sequence Number	0x80000001

Frame 48 |
2020-08-04T21:46:33.262428Z

← OSPF Hello Packet

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10
Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.1

Frame 49 |
2020-08-04T21:46:36.986234Z

← OSPF Hello Packet

ID Source OSPF Router	10.0.0.1
🏠 Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10
Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.5

Frame 50 |
2020-08-04T21:46:39.063592Z

← OSPF Hello Packet

ID Source OSPF Router	10.0.0.5
🏠 Area ID	0.0.0.1
Network Mask	255.255.255.0
Hello Interval [sec]	10
Options	0x12, (L) LLS Data block, (E) External Routing
Router Priority	1
Router Dead Interval [sec]	40
👑 Designated Router	0.0.0.0
👑 Backup Designated Router	0.0.0.0
👤 Active Neighbor	10.0.0.1

Frame 51 |
2020-08-04T21:46:46.848241Z