1. **Whether session level EDI is required to be provided to the SMF in addition to the node level EDI?**

|  |  |
| --- | --- |
| Lenovo | Node level EDI provided to SMF is enough, no requirement for session level EDI sent to the SMF is seen up to now. |
| Ericssson |  |
| Huawei | if the session level EDI means EDI dedicated to specific session, then) both Node level EDI and session level EDI is needed. Session level EDI is used by AF for traffic influence for specific session, and it is provided by AF to SMF via AF traffic influence; Node Level EDI is used not specific to any UE. |
| Nokia | For EDI, Node level EDI provided to SMF is enough in terms of EDI configuration. Then the SMF provides DNS handling rules that are per PDU Session (and derived from PCC rules that themselves are derived from Nnef-traffic Influence).  |
| ZTE | Yes. It should be possible to provide session level EDI so the AF can control the EDI per UE/session basis |
| Vivo | I also think node level is enough. The node level information is for the UE in this area, and for now, I can’t understand and imagine that why for a particular UE, that needs the AF to trigger another traffic influence to provide the session level information. Does the session level have some different from node level information? |
| Tencent | Yes. Some specific UEs, e.g., VIP users, may have different rules. So we prefer to have the node/session level EDI to support the node/session level rules.  |
|  |  |

**1. How does AF provide node EDI to SMF?**

There are three options for this, all follow the routine of AF->NEF->UDR, but with differences between the interface between AF and NEF.

|  |  |
| --- | --- |
| Option A: Define a new dedicated NEF service for AF to provide EDI | 1. 5400(Nokia): EDI is delivered via AF-NEF-UDR, and SMF interacts with UDR directly via Push mode only.
2. 5503(Ericsson): EDI is delivered via AF-NEF-UDR, and only pushed  to SMF based on the subscription triggered by App activation in the SMF.
3. 6293(Lenovo)：EDI is delivered via AF-NEF-UDR, SMF interacts with NEF via Push/Pull mode.
4. 6031(Huawei):  EDI is delivered via AF-NEF-UDR, SMF interacts with NEF via Push/Pull mode.
 |
| Option B: Reuse the existing Nnef\_TrafficInfluence service with Target UE Identifier set as any UE. | 1. 5986(vivo): EDI is delivered via AF-NEF-UDR-PCF, and EDI is included in the PCC rule sent to the SMF from the PCF.
2. 6290/6291/6292(Lenovo): EDI is delivered via AF-NEF-UDR-PCF, and EDI is provided via node level interaction between PCF and SMF.
3. 6131/6141(Tencent): EDI is delivered via AF-NEF-UDR, and SMF interacts with UDR directly via Push/Pull mode.
 |
| OptionC: Option A + Option B |  |

|  |  |
| --- | --- |
| Lenovo | Prefer “Option A: Define a new dedicated NEF service for AF to provide EDI”, and prefers that SMF interact with UDR via NEF for higher efficiency follow the same logic of PFDF management. |
| Ericssson |  |
| Huawei | Option A for Q1. |
| Nokia | Prefer “Option A: Define a new dedicated NEF service for AF to provide EDI”, and prefers that SMF interact DIRECTLY with UDR for higher efficiency following the same logic than PCF for Traffic influence data |
| ZTE | Option A. The procedure can similar as PFD management procedure, i.e. SMF communicate with the NEF. NEF is the frondend of UDR. |
| Vivo  | Both Option A & B is ok, but if we use option A, this service should not limit the scope of only EDI. Maybe in the future, some of other information still needs to provided to 5GC as node level, so I mean, we can change the name and not limited to only EDI provision.  |
| Tencent | Similar view as Vivo. If A is chosen, we prefer the way in 6293 and 6031 to enable both the push and pull mode between SMF and UDR. |
|  |  |

**2. How does EASDF get node level info? From where? (SMF or NEF)**

Different options is summarized as follows:

|  |  |
| --- | --- |
| Option A: SMF->EASDF, SMF provide node level information to EASDF by EASDF service. | 5503(Ericsson), 6034(Huawei), 5994(vivo), 5616(Samsung), 6294 (Lenovo), 5400(Nokia) |
| Option B: NEF->EASDF,  EASDF could use the new NEF service (the same as NEF->SMF in option A) to fetch EDI directly without involving SMF. | 5616(Samsung) |

|  |  |
| --- | --- |
| Lenovo | Prefer “Option A: SMF->EASDF” to follow the same logic of PFDF management and SMF can be the Data concentration point to have all the information for DNS handling rule to guarantee the information consistency as much as possible. |
| Ericssson |  |
| Huawei | Option A for Q2 |
| Nokia | SMF provide node level information to EASDF. This keeps SMF as the controlling node for the feature and allows some EDI information to be used at SMF level (e.g. DNS address to use to configure the Ue in option C) |
| ZTE | Option A. The SMF needs to provide the rule Id of the node level information to EASDF for the session, therefore the SMF has to understand the node level information. |
| Vivo  | Option A. SMF to control the information is reasonable, because SMF is also responsible for the user plane selection under the help of EDI |
| Tencent | Option A. SMF provides node level information to EASDF and could also guarantee the consistency of the rules. |
|  |  |

**3. What’s the node level info provided to EASDF? Is it same as the EDI from AF?**

AS for the content of node level info, there are some different proposals:

|  |  |
| --- | --- |
| Option A: Node level info is the same as EAS Deployment Info from AF. | 5616(Samsung) |
| Option B: define a separated information structure which is different from existing session level DNS message handling rule. | 6034(Huawei) |
| Option C: Node Level Information share the same structure as Session Level DNS message handling rule that has been defined, but provisioned by node level procedure. | 5994(vivo), 5510(Ericsson), 6294(Lenovo) |

|  |  |
| --- | --- |
| Lenovo | Perfer “Option C: Node Level Information share the same structure as Session Level DNS message handling rule that has been defined, but provisioned by node level procedure.” The node level DNS handling rules are deducted from the node level EDI received or configured on the SMF. |
| Ericssson | It is hard to understand why node level DNS handling rules should have a different structure than session level. We proposed that each DNS handling rule sent to EASDF from SMF can have its unique identifier which can be used when SMF decides which DNS handling rules are applicable for a session. SMF does this by at start of a PDU session by providing session level DNS handling rules and/or referring to node level DNS handling rules to the EASDF. |
| Huawei | Option B for Q3. The initial purpose of introduce Node Level information is to avoid the PDU session modification signaling storm caused by EDI change, so the information that its change could introduce the signaling storm issues is put into Node Level Info, and then it could be referred to by Session Level rule. The “action” such like “DROP DNS RESPONSE”, “FORWARD DNS RESPONSE” are all DNS message specific, and cannot be applied to all UEs, the introduce of ACTIONS in Node Level info brings complexity, that why it is not reasonable to include actions in Node Level Info |
| Nokia | Option B: define a separated information structure which is different from existing session level DNS message handling rule.The Node Level Information can complement the DNS handling rules, it is NOT a default DNS handling rule (which the SMF can anyhow populate using a lowest priority DNS handling rule) |
| ZTE | Option B. Session level DNS handling rules is used to identify the DNS traffic and related handling rule, while the node level information is used to identify the local DNS server per S-NSSAI/DNN/DNAI. They have different purposes. |
| vivo | Option C, what the EDI provided to 5GC, the most important is local DNS server IP and per DNAI information. These node level information can also impact to SMF to trigger user plane configuration, and there don’t see any issues that design a new one.  |
| Tencent | Option C with some clarification. The node level rules could share the similar structure as the session level rules. However, some parameters within the rules can be different, e.g., the source IP address is not needed in the node level rules.  |
|  |  |