



Generalized Data File Collection in ONAP

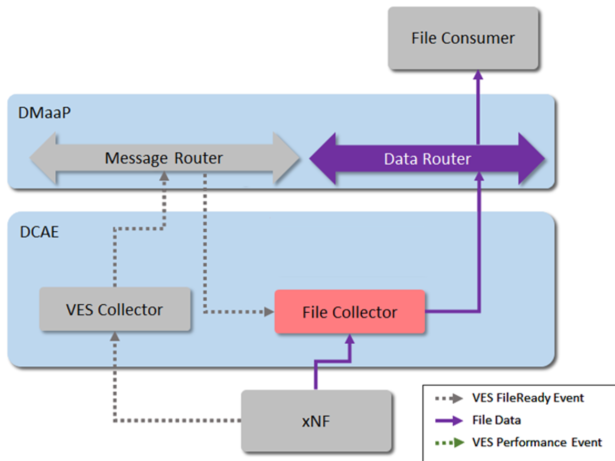
- *ONAP El Alto Release*

Ericsson

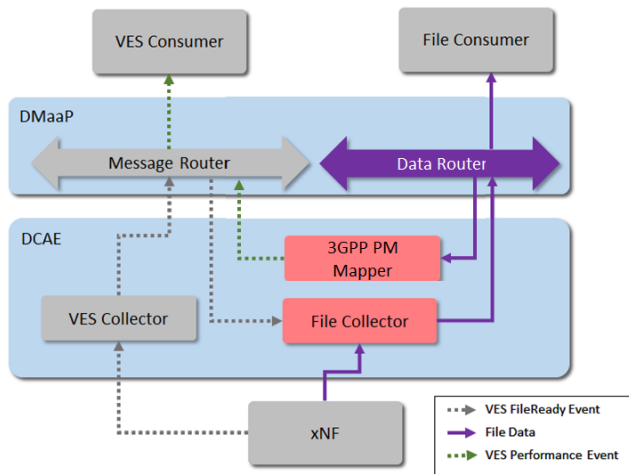
Abstract

- Background
- Purpose
- Overall architecture
- ONAP Impacts

Background



- UC in Casablanca: Bulk performance measurement data file collection introduced
 - DFC (File collector) collects bulk data from VNFs/PNFs.
 - Data files can be consumed by any File consumer applications
 - Current ONAP implementation limited to 3GPP PM bulk data and agreed *fileReady* content



- UC in Dublin: PM data may be converted in VES events.
 - 3GPP PM Mapper converts PM data from 3GPP XML to VES *perf3gpp*
 - *VES events can* be consumed by any VES Consumer applications
 - In some cases, File Consumers may prefer to continue to receive the file in original format.
 - file collector can be used without mapper components
 - file consumers subscribe directly to the DR feed

Background - VES spec v7.1

- VES specification identifies the type/format of the performance file by the "*changeIdentifier*" in the Notification fileReady event.
- Currently the VES spec defines the specific value "PM_MEAS_FILES" to indicate 3GPP PM counters, in support of the 5G Bulk PM Use Cases

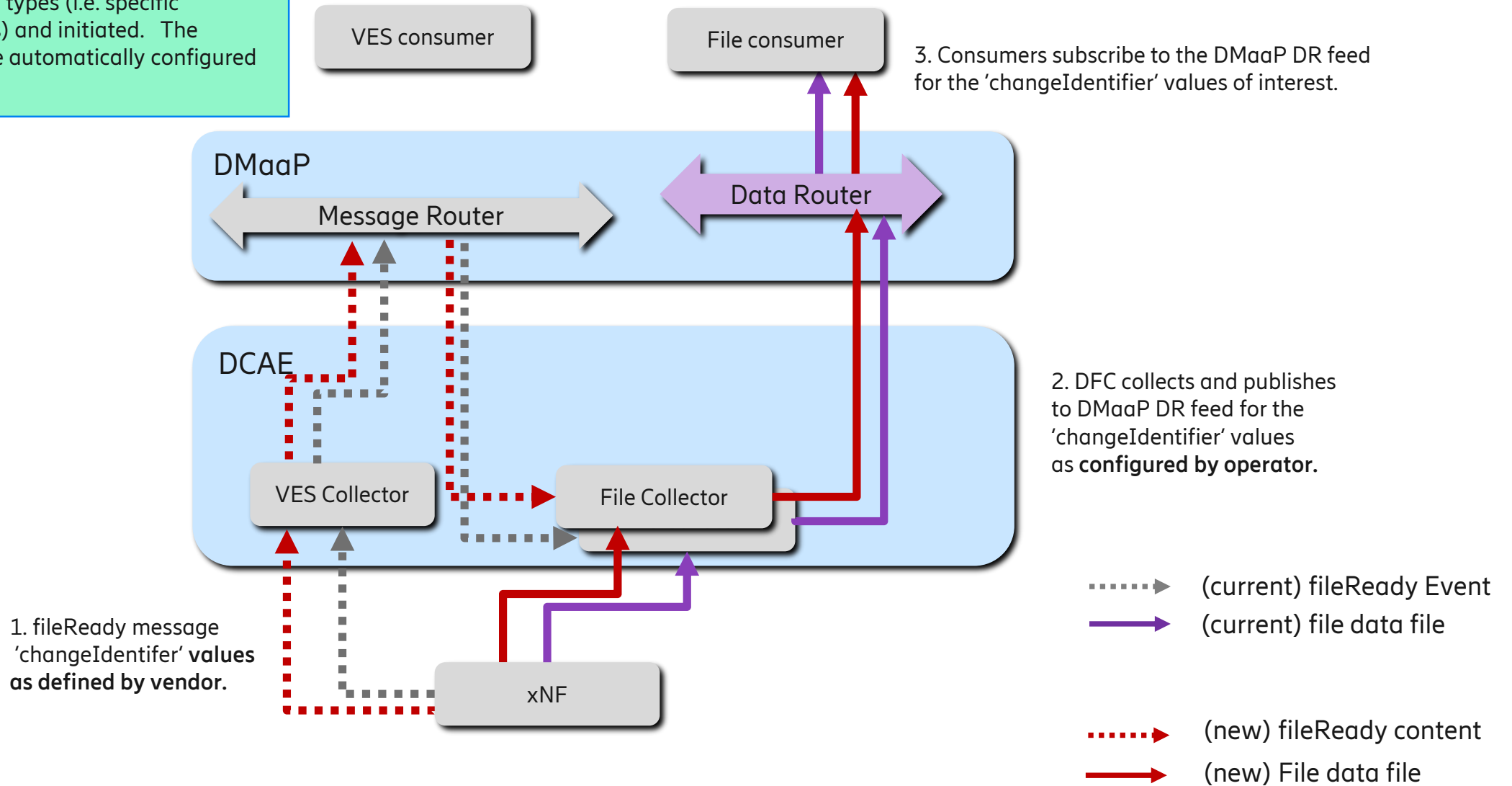
```
"notificationFields": {  
  "changeIdentifier": "PM_MEAS_FILES",  
  "changeType": "fileReady",  
  "notificationFieldsVersion": "2.0",  
  "arrayOfNamedHashMap": [  
    {  
      "name": "A20161224.1045-1100.bin.gz",  
      "hashMap": {  
        "location": "ftpes://192.168.0.101:22/rop/A20161224.1045-1100.bin.gz",  
        "compression": "gzip",  
        "fileFormatType": "org.3GPP.32.435#measCollec",  
        "fileFormatVersion": "V9"  
      }  
    }  
  ]  
}
```

Purpose

- Generalization of the Use Case defined in Casablanca release
 - ONAP File consumer applications may collect any kind of file from VNF/PNF, and not only 3GPP Bulk PM file
 - enables generalized data file collection to support any file formats (e.g. multiple standard or vendor specific formats).
- Proposed mechanism would allow any files collected by DCAE DFC to be made available via DMaaP DR, **based on configuration**
 - vendors can support different file types - in their fileReady message content
 - operators can configure file distribution within ONAP – through configuring DFC to collect and forward specific file types to DR

Overall Architecture

Precondition: DFC has been configured to handle expected NF file types (i.e. specific changeIdentifier values) and initiated. The DMaaP DR feeds will be automatically configured at this time.



ONAP Impacts

- DFC
 - Support new DFC configuration to support different file types and DMaaP DR feed to distribute each.
 - By default, common configuration applies to all DFC instances, with ability to define dedicated DFC instances per type if wanted
 - **Dependency:** DMaaP plugin (AT&T contrib, Dublin) support to create the new feeds.
- DMaaP
 - No impact. VNF Requirement ensures filename uniqueness per changelIdentifier value.
 - DFC provides DR feed with metadata source from the fileReady common header fields: eventName, productName, vendorName, lastEpochMicrosec, sourceName, startEpochMicrosec, and timeZoneOffset. Other fields including vendor-specific additional fields are not.
- VES spec
 - Recommend specific *changelIdentifier* values be defined in VES spec only for agreed multi-vendor values with specific ONAP UC handling. I.e. PM_MEAS_FILES
 - Additional *changelIdentifier* values in fileReady are supported by generic collection handling. I.e. DFC will collect and publish to a DR feed based on the value of the *changelIdentifier* configuration. See next slide for suggested update.
 - Existing “PM_MEAS_FILES” remains the value for 3GPP PM files for backward compatibility.
- DCAE-DS:
 - No impacts.
- VNF-RQMT:
 - New/Modified requirement to specify recommended handling for vendor specific fileReady 'changelIdentifier' (per [fileReady Event Example](#)).
 - To ensure all files are properly collected and forwarded in DR, vendor should ensure filename uniqueness per *changelIdentifier* value; simple method to achieve is to include the NF Name in the filename.

VES spec suggested update

The fileReady notification event is used by NFs to notify ONAP that a file is available for upload. Vendors may define their own *fileReady* content, however the following fields must be used as defined to support generic collection in ONAP:

```
"changeIdentifier": "VENDORNAME FILEFORMATNAME",           - the VENDORNAME + FILEFORMATNAME helps to ensure uniqueness
"changeType": "fileReady",
"notificationFieldsVersion": "2.0",
"arrayOfNamedHashMap": [
  {
    "name": "A20161224.1045-1100.bin.gz",
    "hashMap": {
      "location": "ftpes://192.168.0.101:22/rop/A20161224.1045-1100.bin.gz",
      "compression": "gzip",
      "fileFormatType": "FILEFORMATFILENAME",           - the FILEFORMATNAME value is same as used in "changeIdentifier" above
      "fileFormatVersion": "FILEFORMATVERSION" }       - the FILEFORMATVERSION is used by consumers
    }
  ]
}
```

Some specific values for the fileReady notification are agreed for specific handling within ONAP. For 3GPP-compliant NFs to notify ONAP that a PM file is available for upload the **agreed** notificationFields are populated as follows:

arrayOfNamedHashMap: The array is named for the PM file as defined in 3GPP TS 32.435. The array contains the following key value pairs:

- **location** in the form protocol://ipAddress:port/path/filename; e.g. "location" : "ftpes://135.3.1.44:21/pmfiles/A20180531.1030+0600-1045+0600_5gBts213.bin.gz"
- **compression** containing the compression type used for the PM file; e.g. "compression" : "gzip"
- **fileFormatType** containing the format type of the PM file; e.g. "fileFormatType" : "org.3GPP.32.435#measCollec"
- **fileFormatVersion** containing the format version of the PM file; e.g. "fileFormatVersion" : "V10"
- other vendor-defined key-value pairs as needed

changeIdentifier: set to PM_MEAS_FILES

changeType: set to fileReady

Other notificationFields are not used for fileReady.

fileReady Event Example

For vendor specific fileReady content, the **bold** fields are recommended to be specified per file type and version.

```
"notificationFields": {  
  "changeIdentifier": "VENDORNAME_FILEFORMATNAME",  
  "changeType": "fileReady",  
  "notificationFieldsVersion": "2.0",  
  "arrayOfNamedHashMap": [  
    {  
      "name": "A20161224.1045-1100.bin.gz",  
      "hashMap": {  
        "location": "ftpes://192.168.0.101:22/rop/A20161224.1045-1100.bin.gz",  
        "compression": "gzip",  
        "fileFormatType": "FILEFORMATFILENAME",  
        "fileFormatVersion": "FILEFORMATVERSION"  
      }  
    }  
  ]  
}
```



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