

DIFMET

Data dissemination and data flow control

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Why a new dissemination tool ?

- The new Production system SOPRANO needs features to send a high amount of products through **the new protocols** : SMS, E-MAIL, Voice messages...
- For a full production management, each product **shall be followed during all its dissemination until the end user.**
- For a faster reactivity, the new dissemination tool shall be able to offer producer features **to set up itself this dissemination.**
- The new framework has to offer **flexibilities in the products file naming** from one end to the other end.
- Our actual MSS does not offer these functionalities.

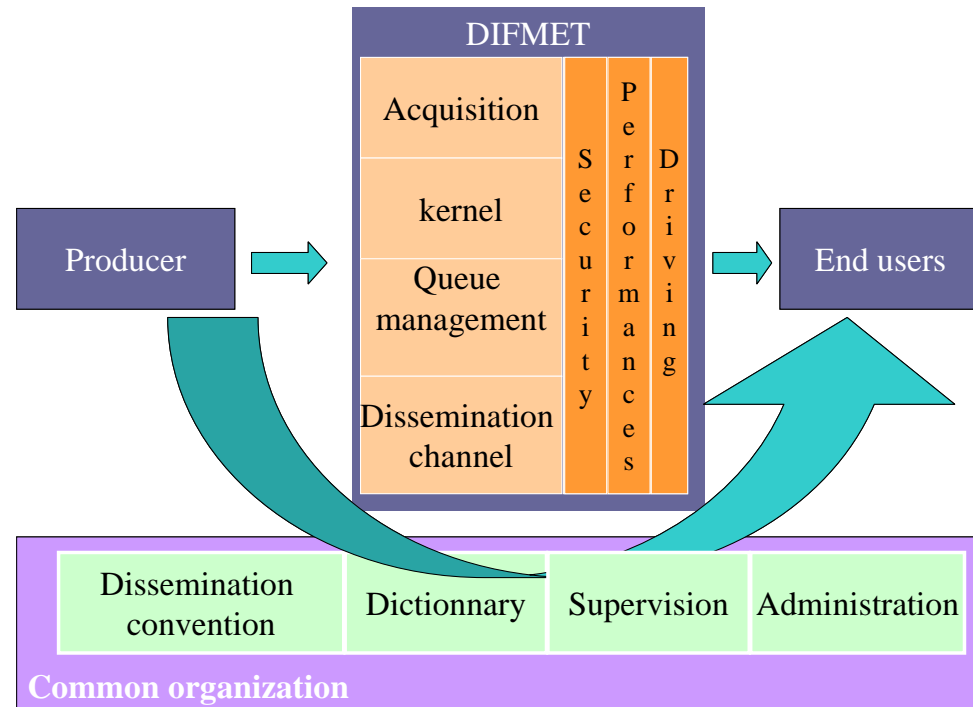


DIFMET main functionalities

- Used by Meteo France central production system SOPRANO and also by the regional production systems.
 - for all Product type (customized products, raw products)
 - in push mode, directly to the end user or through a provider (for example SMS issue)
- Allows high volume of data management with increased availability
- Allows sending of a lot of products in a very short time
- Difmet has to provide features to define a product identifier for an easier control and sharp products identification
- Difmet will be handling different priorities for the different reception files.
- Difmet will provide international language switching.

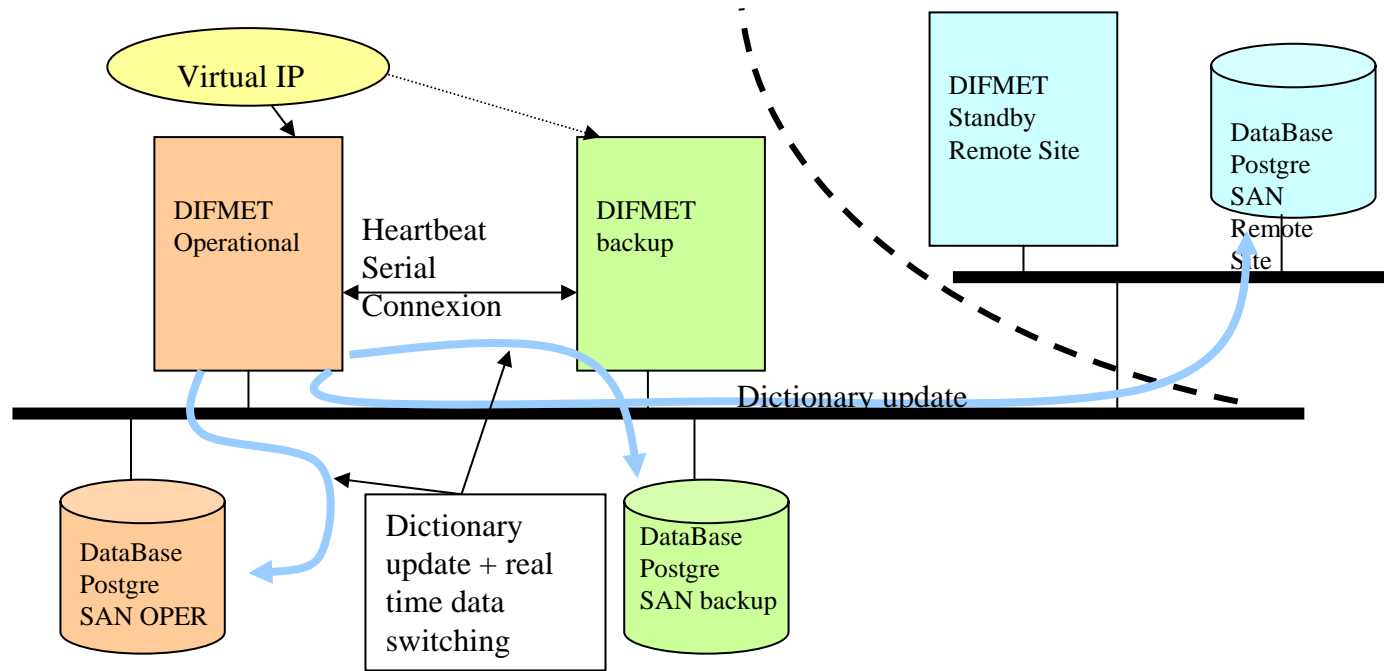
General framework

- Producers put on the right directory products according Difmet file naming convention.
- The data acquisition system pools all directories to get products and switch them to the kernel
- The kernel manages the data switching, makes controls, conversion and switches the product to the right channel
- Products are queued before transmission. There is one queue per dissemination channel.
- Through the dissemination channel, the products can be sent to the end user. Dissemination channel are FTP, Mail, Fax, Printers...



Technical architecture

Implementation



Programming requirements:

- Programming language : 'C' and PERL (Transmet software reuse) for the BackOFFICE.
- PHP5, PERL JAVASCRIPT to generate HTML GUI.
- DIFMET uses LINUX system as SOPRANO system.
- The database is a PostgreSQL database

Deposit products interface

- **Product identifier**

It is useful to have a good visibility of the type of data carried along by having a look on the data designator:

Ideally, any user should be given details about the data type being processed and the product identifier will be used both for routing purposes and data description.

The WMO product identifier defined for the file naming convention when the Pflag eq "W" has all these qualities

- **pflag_productidentifier_oflag_originator_yyyyMMddhhmmss**
[_freeformat].type[.compression]

When the pflag is « W » the « **productidentifier** » is the following :

- <location indicator>,<data designator>,<free description>,<International date-time group>,<BBB modification header>

For example in Difmet, we have this product identifier :

fr-meteofrance-toulouse,SYNOP,MAIN+HOURS,200610000000,RAA



File naming convention

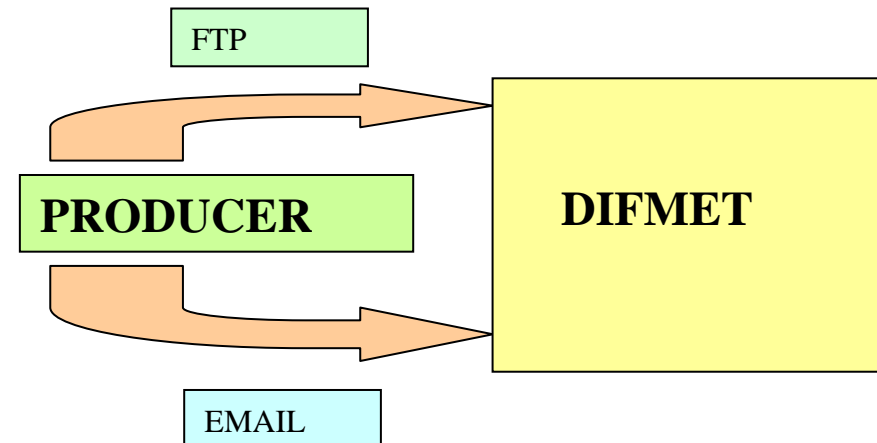
- To simplify the description by the producer, Difmet uses a simplified file naming ,WMO identifier compliant
- The Difmet file naming is structured as below:
 - < productidentifier >.[<checksum>].<extension>
- For example : fr-meteofrance-toulouse,SYNOP,MAIN+HOURS,200610000000,RRA.html
- Difmet file naming extension :
txt,Html,Tiff,rtf,ps,pdf,gif,jpg,mpg,wav,png,mp3,xls,doc,avi,xml,Tar,zip, gz,zip,bin



Deposit products interface

■ Deposit protocols

- Only with FTP and e-mail protocol are allowed
 - more than 100 Difmet producers
- Each producer can send its products on his own directory using :
 - **FTP** anonymous. The “walk-in” directory is secured and controlled to prevent saturation.
 - **E-mail**. only e-mail address define in Difmet data base are allowed, with a special string in the e-mail header for a best control.



Processing mode - dictionary

- **Dictionary Mode** : Products description is known in the Difmet data base:
 - Product identifier, product policies, archive time, special processing, end user description...
 - Same dictionary for all Difmet administrators but with different view according to administrator policies.
 - Each administrator could manage this dictionary view through a web interface.



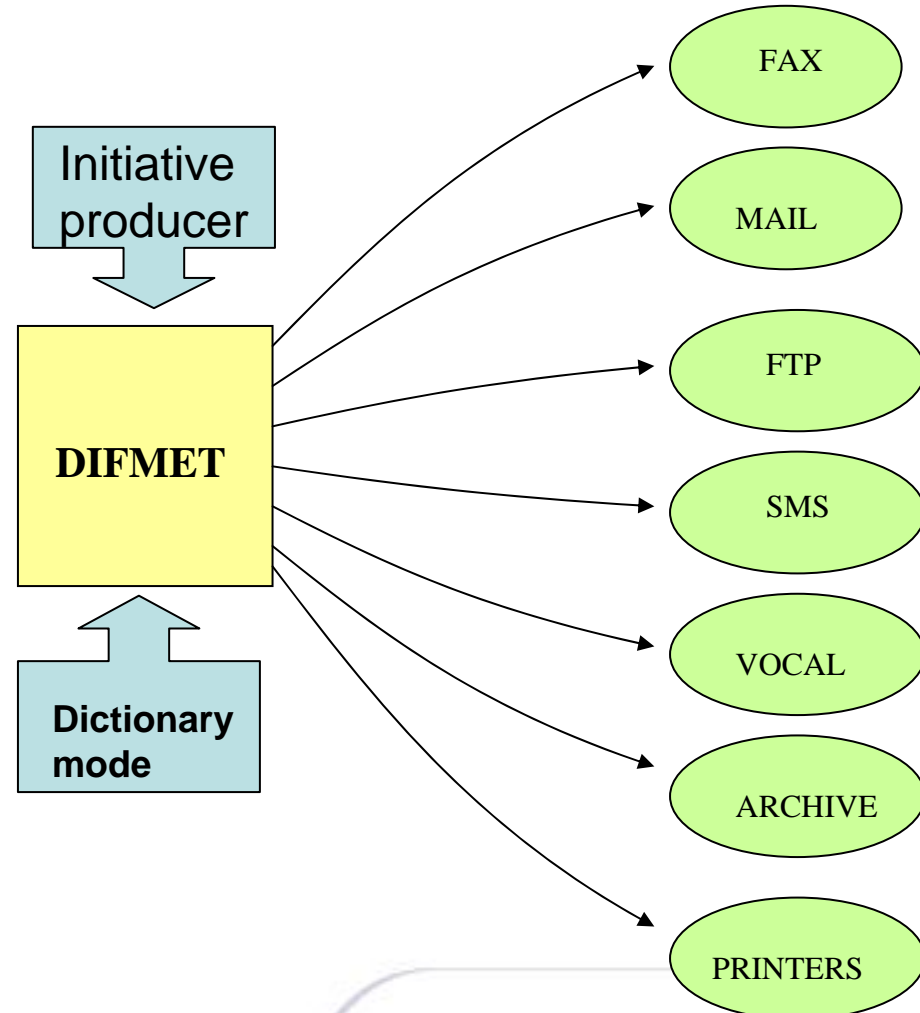
Processing mode - Initiative producer

- The products are put on Difmet acquisition system with a command file
 - XML file (.met extension).
 - File and command file are “Tared” for an easier processing
- The command file contains all the routing description and Difmet directives to process and send products to the end user.
- The system will be able to process .tar and .zip files transparently. This information will be explicit in the associated command file.
- In initiative producer mode, the switching consistency is under producer’s responsibility.



Output format

- the different dissemination channels are accessible through dictionary mode as well as through the initiative producer mode.



Supervision

- Difmet system will be supervised in real time by operators from Meteo France central production but also by the regional production system operators.
- For example:
 - Incoming data flow
 - Conversion tasks,
 - Processing and archiving tasks
 - Dissemination multi-channels
- The « real time » supervision duration is around 1 minute but the update operator interface could be customized easily.
- For regional production issues, the supervision interface will provide features to consult and manage their production.



Administration interface

- Difmet offers features to manage the system with two administration levels
 - A central administration for the main Meteo France production center with all rights on Difmet system, i.e. switching dictionary, end user directory, conversion tasks, different processing, storage...
 - A local administration for regional production with features to manage the production within their area of responsibility.



HMI : Three different skins

- All interfaces shall offer international language switching

- Three interface with three different skins for a better readability.
 - Administration interface
 - Dictionary update
 - Define customer, products, switching...
 - Operator supervision
 - Following production and products, retransmission, manage dissemination...
 - End user supervision
 - Following this owner dissemination from the producer to the end user
 - This functionality is only available in dictionary mode.



Connexion interface

The screenshot displays the 'DIFMET INTERFACE DE SUPERVISION' login page. At the top, there is a blue header with the text 'DIFMET INTERFACE DE SUPERVISION'. Below this, the word 'AUTHENTIFICATION' is displayed next to a red cluster icon. To the right of the header, there are three language selection icons: France, United Kingdom, and Spain. The authentication section contains two input fields: 'Identifiant : ' and 'Mot de passe : '. Below the password field are two buttons: 'VALIDER' and 'ANNULER'. A large white box in the center contains the text 'Page d'accueil - Texte de présentation de la SUPERVISION de DIFMET/Avertissement'. At the bottom left, there are links for 'meteofrance.com', 'Contacts', and 'Liens utiles'. At the bottom right, there is the 'METEO FRANCE' logo with the tagline 'Toujours un temps d'avance'.

Language selection

Authentication

Information

Administration interface

DIFMET
INTERFACE D'ADMINISTRATION

MENU PRINCIPAL

DICTIONNAIRE ▾

- Producteurs
- Clients
- Voies
- Destinataires
- Groupes
- Formats de sortie
- Diffusion
- Produits ▾
- Fax ▾
 - En-têtes
 - Liste noire
 - Fax à diffuser
 - Mode relève ▾

GESTION DES UTILISATEURS

LISTER LES PRODUCTEURS ✕
CRÉATION D'UN PRODUCTEUR ✕

CRITÈRES DE RECHERCHE

Nom : Commentaire :

Responsable : Mode de dépôt : FTP E-Mail

Résultats : Modifié depuis le :

LISTE DES PRODUITS

Date : 15:45:34 UTC, 95 produits retrouvés page 3/5 (items 41 à 60) ⏪ ⏩


N°	+	-	Nom	Responsable	Commentaire	Mode de
1	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
2	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
3	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
4	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
5	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
6	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
7	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
1	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
2	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
3	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
4	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
5	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
6	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP
7	✕	+	SOPRANO	Jacques Anquetil	AAAAAAAAAA	FTP

meteofrance.com | Contacts | Liens utiles

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End user control interface

DIFMET SUIVI DE LA DIFFUSION

 LISTE DES PRODUITS

N°	Heure ▼	Produit	Taille ▶	Format	Statut ▶	Commentaire
1	10:34:23	AAAAAAAAAA	100 Ko	Tiff	Diffusé	OK
2	10:32:45	AAAAAAAAAA	100 Ko	Tiff	Diffusé	OK
3	10:23:42	AAAAAAAAAA	1 Mo	Tar.gz	prêt à Diffuser	OK
4	11:00:07	AAAAAAAAAA	245 Ko	Doc	Erreur diffusion impossible	Contacteur n°
5	11:15:29	AAAAAAAAAA	800 Ko	Tiff	Diffusé	OK

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Difmet Project

- All the requirements are defined and validated
- Difmet software development is started
 - For BackOffice
 - For FrontOffice
- Difmet should be in operation by the end of 2008
- By now, no expected delay on the development schedule.

