



# EAD 2021 Annual Plan

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1.000	10/11/2020	R. Gupta	Official version – released to SSG of Nov-2020

### Review Table

Version No.	Review type, scope, depth & focus	Reviewers	Date	Conclusion
0.100	Full 1 <sup>st</sup> Review	All EAIM Team	12/10/2020–14/10/2020	Numerous comments received; update required.
0.200	Full 2 <sup>nd</sup> Review	All EAIM Team	14/10/2020-20/10/2020	Comments received from GUA
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## 1 Introduction

- (1) In accordance with Commission Implementing Regulation (EU) 2017/373, ATM/ANS.OR.D.005 - Business, annual, and performance plans, EAD is tasked with the production of the EAD Annual Plan (**EADAP**) about its activities. The EADAP is a summary of the information agreed by the EUROCONTROL Agency and the EAD Service Steering Group. The EADAP covers the forthcoming year, which shall further specify the features of the business plan and describe any changes to it as compared to the previous plan.
- (2) The EADAP proposed issue shall be submitted to SSG for acknowledgement. Comments received from the SSG shall be evaluated and, when accepted, incorporated in the EADAP draft issue. The EADAP incorporating any last changes made by the SSG shall become the EADAP final version.
- (3) The EADAP final version will be published by EAD on its website.

## 2 Scope

- (1) This Annual Plan describes the activities to be carried out in 2021 by EAD as a system, which entails:
  - EUROCONTROL as the system and service manager;
  - The operations carried out by the data operations and training services provider;
  - The operations carried out by the IT service centre and application maintenance provider.
- (2) These activities are linked to the following business objectives described in the Agency Work Programme:
  - Airspace / AIS Information Management Service Provision;
  - Airspace / AIS Information Management Development;
  - European ATM Information Management Service.

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### 3 EAD Business Objectives

- (1) Kindly note that, in the table below, significant changes vis-à-vis from last year are indicated with **bold** font.

#### 3.2 Airspace/AIS Information Management Service Provision (ADS)

<b>Actions</b>	<b>Deliverables (Milestones/Targets)</b>
<u>Airspace/AIS Data Management</u> <ul style="list-style-type: none"> <li>• Development and maintenance of operational guidance material related to aeronautical data quality and consistency improvements;</li> <li>• Organise the relevant consultation and working arrangements on AIS/AIM operational issues;</li> <li>• Monitoring EU regulations and ICAO SARPS changes related to AIS/AIM relevant topics having operational and/or technical impact on EAD;</li> </ul>	<p>Data harmonisation and consistency operational requirements.</p> <p>AIM related operational and/ or technical specifications for implementation and maintenance in EAD.</p>
<u>Airspace/AIS Information Operations</u> <ul style="list-style-type: none"> <li>• Delivery of EAD operation services encompassing the provision of static data, dynamic data, and aeronautical Publications (outsourced);</li> <li>• Maintenance of world-wide static data and world-wide NOTAM processing (outsourced);</li> <li>• Provision of data quality/consistency reviews to data providers (outsourced);</li> <li>• Ensure data providers' data is complete, and that identification of missing data and data responsibility is performed;</li> </ul>	<p>Delivery of EAD operations service according to service level specifications.</p> <p>Bi-yearly data consistency report.</p> <p>Monthly performance report.</p> <p>Quarterly EAD Service Provision meetings</p>



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<p><u>Airspace/AIS Information System</u></p> <ul style="list-style-type: none"> <li>• Delivery of EAD IT services in order to perform H24 EAD data operations (outsourced);</li> <li>• Development and maintenance of the EAD application software (outsourced);</li> <li>• Management of the evolution of the EAD system by providing change proposals (CP) for each subsystem.</li> <li>• Monitoring of EAD system development including review, assessment and verification activities;</li> </ul>	<p>Delivery of EAD IT service according to service level specifications.</p> <p>Regular EAD system release.</p>
<p><u>Maintenance of EASA Certification for EAD Service</u></p> <ul style="list-style-type: none"> <li>• The EAD Service was first certified by EASA in 2016.</li> </ul> <p>The EAD Service Certification by EASA was renewed in December 2018 against European regulations 2017/373 and 73/2010.</p> <p>The EAD Service Certification by EASA is in the process of being renewed again in December 2020 against European regulations 2017/373 and 73/2010.</p> <p>Evolution and maintenance is required to stay aligned as required with emerging standards and specifications and to stay compliant to the above mentioned regulations.</p> <ul style="list-style-type: none"> <li>• <b>A transition plan in order to ensure compliance with the new requirements embedded in 2017/373 by 2020/469 is under preparation.</b></li> </ul>	<p>EAD Service</p>
<p><u>Client Management :</u></p> <ul style="list-style-type: none"> <li>▪ Management of the EAD Client Agreements;</li> <li>▪ Establishment of customer requirements for the use of the EAD services;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Signature of an EAD Agreement defining the rights and obligations of the parties.</li> <li>▪ Establishment of a Migration Plan.</li> </ul>

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<ul style="list-style-type: none"> <li>▪ Assistance of customers for their migration to EAD and the management of the industry partners involved in the process</li> <li>▪ <b>Coordination of the transitions of customers to AIXM 5.1 (SDD)</b></li>   <li>▪ Management the invoicing of customers for the services provided by EAD and the management the related invoicing mechanism;</li> <li>▪ Promotion of the EAD service to prospective customers.</li> <li>▪ Consultation with EAD clients</li> </ul>	<ul style="list-style-type: none"> <li>▪ The management and coordination of the transition through regular project follow up meetings with all partners involved.</li> <li>▪ <b>The management of the coordination of the transitions with regular project follow up meetings with all partners involved.</b></li>   <li>▪ EAD Charging Scheme; Invoicing to customers; related section in SSG report</li>   <li>▪ Regional Meetings; Participation to ICAO meetings; Participation to ATM/AIM meetings</li> <li>▪ Conduct Client satisfaction surveys</li> </ul>
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### 3.3 Airspace / AIS Information Management Development (ADD)

<b>Actions</b>	<b>Deliverables (Milestones/Targets)</b>
<u>EAD Data Completeness and Extensions</u> <ul style="list-style-type: none"> <li>The upgrade of the Static Data Completeness tool (SDC) in order to allow data providers to monitor the completion of their static dataset also in AIXM 5.1 (SDD) is planned for 2021.</li> </ul> <p>The maintenance of the SDC tool however will proceed until final EAD System Shutdown.</p>	<p>SDC tool for data providers and associated reporting facility</p>
<u>AIM System Service improvement and Development</u> <ul style="list-style-type: none"> <li>Analysis and deployment of additional functionalities in order to meet EU regulations and ICAO standards, i.e. <ul style="list-style-type: none"> <li><b>Digital datasets</b></li> </ul> </li> <li><b>Development of AIXM 5.1 graphical capabilities in EAD</b></li> </ul>	<ul style="list-style-type: none"> <li>Extension of EAD functionalities compliant with EU regulations and ICAO standards, Annex 15 Amendment 40 and PANS-AIM. <ul style="list-style-type: none"> <li>Activities to start in Q2-Q3/2021 timeframe</li> <li>Deployment of future EAD Release (Q3-2022)</li> </ul> </li> <li><b>Implementation of a Graphical Validation tool in Release 14</b></li> </ul>
<u>Data Alignment with NM-Systems</u> <ul style="list-style-type: none"> <li>Data Alignment in particular between CACD and EAD.</li> </ul>	<p>Data Alignment with NM-Systems</p>

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### 3.4 European ATM Information Management Service (EAIMS)

<b>Actions</b>	<b>Deliverables (Milestones/Targets)</b>
<p><u>Development of EAD</u></p> <ul style="list-style-type: none"> <li>• Manage the modernisation of EAD in the context NM Long Term Investment Plan (iNM project). This project will inter alia deliver the replacement of the EAD by an enhanced EAD system and services that meet the functional requirements approved by stakeholders and described in eEAD CONOPS 6.0.</li> <li>• During this reporting period, EUROCONTROL will issue a Call For Tender for the replacement of the various technical components of the NM infrastructure including EAD and select the appropriate new industry partners.</li> </ul>	<p>iNM Call For Tender is ongoing and selection of the appropriate new industry partners foreseen in 2021.</p> <p>Start of the Initial Order (specification &amp; development)</p>
<p><u>Data Quality compliance and Conversion of AIXM 4.5 to 5.1</u></p> <p>The objective is to ensure that the EAD system is recognised as compliant with Data Quality requirements as per 2017/373 (amended by 2020/469). In order to reach this objective EAD will:</p> <ul style="list-style-type: none"> <li>- Develop and implement a procedure for the transition from SDO to SDD</li> <li>- Develop additional facilities to further support data provision via SDD in AIXM 5.1 format,</li> </ul> <p>The transition process was initiated in 2020 and will continue in the following years.</p>	<ul style="list-style-type: none"> <li>- Development and implementation a procedure for the transition from SDO to SDD for B2B and B2C clients</li> <li>- Development of additional facilities to further support data provision via SDD in AIXM 5.1 format, and EAD Data Operations Provider (DOP) in their daily operations.</li> </ul> <p>Clients transitioned to SDD (about 5 clients planned to be transitioned in 2021)</p>
<p><u>Integrated Briefing enhancement</u></p>	<p>Implementation of Amendment 40 to ICAO Annex 15 - SNOWTAM format change.</p>
<p><u>Service development</u></p>	<p>EUROCONTROL will operate, maintain and develop EAD in order to provide a system and services in line with the applicable regulatory requirements and with the service performance level agreed with its stakeholders.</p>

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## 4 Cost-base for 2021

- (1) The table below shows the total cost base of EAD for the period covered by the Annual Plan:

*(Amounts in kilo €)*

	<b>2021</b>
<b>FTE</b>	<b>11,30</b>
Staff Remuneration	2428
Staff related expenditure	195
External Effort	4070
Operating	13080
Depreciation Inv ABP 2021-2025	0
Cost of capital Inv ABP 2021-2025	
Depreciation Investments 2020	0
Depreciation Past Investments before 2020	0
Cost of capital Past Investments	0
Staff Receipts (Acc.Ins + Special Levy)	-37
Sales of services UPP	-308
Sales of services UPP Indirect Costs	-92
Indirect Costs	0
<b>Cost-Base (kilo €)</b>	<b>19.336</b>

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- (2) Note: The cost-base may change depending on the pending decisions by NM Board and the Provisional Council regarding EAD staffing and budgets.
- (3) The EUROCONTROL EAD is a centralised service that relies on external industry partners for the provision of Data Provision Operations and IT development and infrastructure services. As such, investment costs are directly supported by these industry partners. EAD costs are therefore broken down by business objectives as follows:
- Staff Remuneration: Salaries.
  - External Effort: Consultancy and temporary staff.
  - Operating costs: Service, maintenance and training costs.
  - Depreciation costs: Costs related to the depreciation of very specific investments for oversight management.
  - Sales of services UPP: Income from Service Charges.
  - Indirect costs: Costs of human resources management and facility management.

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## 5 Performance Indicators

- (1) The performance indicators mentioned in this chapter describe the planned performance of EAD, for the provision of its services to customers (principally Data Providers and Data Users).
- (2) These performance indicators are derived from the I performance indicators annexed to the latest version of the Service Level Specifications signed between EUROCONTROL and respectively DOP, ITP and application maintenance.

### 5.2 Service availability

- (1) The minimum availability and maximum downtime of the services provided by EAD, as agreed with the industry partners for 2020 and acknowledged by the EAD Service Steering Group, is listed in the table below:

EAD Services	Minimum service availability	Planned unavailability	Unplanned outages
INO BF	99,975%	Shall not exceed 60 minutes in total and not more than two times in a month 180 minutes for release deployments	Shall not exceed 30 minutes
INO DP			
INO DU			
SDO			
PAMS			
CHARTS	98%		Downtime and system recovery based on best available effort
AIP			
ESI			
EAD Basic <sup>1</sup>	95%	Downtime and system recovery based on best available effort	

<sup>1</sup> Internet access for any user – Not for operational use

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### 5.3 Service capacity

- (1) The table below shows the average capacity per service made available by EAD to its customers: This yearly capacity corresponds to the calculated total for a year of the daily average capacity per service.

<b>EAD Services</b>	<b>Description</b>	<b>Yearly Capacity</b>
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<b>For Data Users (&amp; Data Providers)</b>		
Flight plans preparation	Creation of flight plan through EAD interface, validation against SDO and IFPUV	<b>5 Million</b>
Flight plans distribution	Submissions and reception of flight plans and associated messages	<b>11,5 Million</b>
PIB generation	Generation of Pre-flight Information Bulletins	<b>5,5 Million</b>
SDO reporting	Retrieval pre-defined standard aeronautical data reports	<b>2,5 Million</b>
Graphical reporting	Graphical representation of information stored in EAD	<b>200.000</b>
PAMS download	Browse and download the effective version of AIPs, AIP Supplements and Amendments, AICs and chart publications.	<b>30 Million</b>

<b>For Data Providers</b>		
NOTAM creation	Number of NOTAM created through EAD	<b>400.000</b>
NOTAM processed	Worldwide NOTAM processed by EAD (excluding NOTAM creation through EAD)	<b>1,4 Million</b>
SDO upload	Upload of static data based on AICM/AIXM specifications and static data changes	<b>50.000</b>
SDO download	Download of static data based on AICM/AIXM specifications	<b>500</b>
AIP operations	Validation and publication of AIPs	<b>5.000</b>
PAMS Upload	Upload of the effective version of AIPs, AIP Supplements and Amendments, AICs and chart publications.	<b>5.000</b>



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## 5.4 Service operations performance and quality

### 5.4.1 Service operations performance

#### 5.4.1.1 Data Operations

- (1) EAD maintains the ECAC full static data set and the operational worldwide (basic) data set. This data set has to be maintained as specified below, except for SDO migrated Data Providers or if otherwise agreed:

Changes received at least x days before the effective date	Maximum number of days for commitment before the effective date
Before 25	20
Between 25 and 15	10
Less than 15	by the effective date or within 5 working days after reception, whichever is later

- (2) NOTAM having an impact on static data (PERM NOTAM) are processed as follows:
- All changes based on PERM NOTAM with immediate effect or effective in the future, but not related to AIRAC information shall be committed within 2 calendar days after reception at the latest unless coordination with Data Provider is previously required;
  - all changes based on PERM NOTAM with effective date in the future affecting incoming AIRAC information shall be committed at the latest two calendar days after the respective AIRAC information is committed unless coordination with Data Provider is previously required.

#### 5.4.1.2 NOTAM Processing

- (1) This activity includes the processing of NOTAM, SNOWTAM, and ASHTAM received via AFTN. It consists of ensuring that all messages received are validated, coherent, in the required format and that their syntax and structure conform to ICAO Annex 15 and EUROCONTROL OPADD, prior to storage in the INO database and further distribution. To increase the quality of the NOTAM, they are validated systematically against the static data object in SDO.
- (2) The TAM processing service is measured in terms of time and volume.
- (3) Manual processing targets for incoming TAM are as follows:
- a) Average processing time for messages: 10 minutes (elapsed time between reception by the system and storage after manual processing);
  - b) 98,5% of messages processed within 30 minutes (elapsed time between reception by the system and storage after manual processing);

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- c) 99% of checklist received as TAM shall be analysed within 48 hours after reception (elapsed time between the completion of the checklist analysis and the reception time of the TAM by the system).

### 5.4.1.3 PAMS

- (1) This service includes the maintenance of a library of last available Aeronautical Information Publications in digital format (AIP, Amendments, Supplements, Circulars, and Charts), for ECAC+ States which are not yet managing their Publications directly in EAD.
- (2) Two different categories are considered for the measurement of this service:
  - CAT I : AMDT (Amendments), i.e. posting the PDF file of an AIP Amendment in PAMS;
  - CAT II: updating in PAMS of the AIP sections and charts.
- (3) The maximum time allowed for the processing of the above categories is as follows:

Type of amendment or update	To be processed
CAT I	within 3 working days of receipt
CAT II Publications received on time <sup>2</sup>	by the effective date
CAT II Publications received late	within 5 working days of receipt

### 5.4.2 Service Desk

- (1) The service desk manages tickets opened for any incidents and service requests. Ticket management includes the identification of the severity level, appropriate assignment according to the area of responsibility, traceability, follow up, recording of applicable solution or workaround, and an the estimated target date for the availability of the deployed solution.
- (2) Tickets are classified based on the following severity classes defined by EUROCONTROL:

Severity	Definition
High (A)	Service failure or malfunctioning, which has major impact on business and/or has impact on client(s) safety operations.
Medium (B)	Business is proceeding but is impaired either at Service Provider or at client.
Low (C)	No significant business impact

- (3) The Initial Feedback Time is the period from when the Ticket has been opened until the first call back or change in status has been made in the Ticket. The Initial Feedback Time does not mean resolution time.

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<sup>2</sup> Up to 5 days prior to the effective date.

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- (4) This initial feedback time shall be in accordance with the Table below:

Severity	Initial Feedback Time
High (A)	1 hour
Medium (B)	4 hours
Low (C)	24 hours

## 5.5 DOP Data Consistency Review

- (1) Data Consistency service ensures that data errors loaded by DOP contained occurring in the EAD are identified and acted upon, thus enhancing the consistency of EAD data.
- (2) Data consistency reviews are performed according to procedures described in the EAD DOP SLS, quality system and OUH - DP. DOP performs quarterly reviews and reports to DPs on SDO, INO and PAMS.

Type of service	Monthly percentage of service errors severity A/B less than
INO	2.5% of the total number of NOTAM reviewed
SDO	2.5% of the total number of static data changes reviewed
PAMS	2.5% of the total number of pages reviewed

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## 6 Revenues and business perspective

- (1) The Permanent Commission of the European Organisation for the Safety of Air Navigation (EUROCONTROL) approved on 25 November 2003 (Decision No. 101): The rules governing the provision of aeronautical information to and by EUROCONTROL for the operation of the European AIS Database (EAD) service as set out at Annex 1: "Copyright Policy" and Annex 2: "Service Charging Policy".
- (2) For charging purposes, Clients are categorised into the following types:
  - Type 1: Clients that do not pay EAD Charges, i.e.:
    - Clients acting on behalf of a Member State of EUROCONTROL or having signed a Comprehensive Agreement with EUROCONTROL;
    - Clients being airspace users paying en-route charges for flights operated partly or entirely in the ECAC area.
  - Type 2: Clients that pay Service Charges, i.e.  
Any client using the EAD data for its own operational business without reselling / commercialising the EAD data and / or value added products, and which does not contribute to EUROCONTROL budget, nor pay en-route charges (e.g. ANSP of other than EUROCONTROL Member States or States having concluded a Comprehensive Agreement with EUROCONTROL).
  - Type 3: Clients that pay Service and Royalty Charges, i.e.  
Entities, public or private, who intend to commercialise the EAD data (with or without value added products) (e.g. Data houses, software companies, etc.)
- (3) In 2018, the EAD Service and Royalties Charging Sub-Group (ESRC-SG) considered that, after more than 10 years of hindsight, there was a need to update and streamline the existing charging regime, while maintaining the key principles outlines in PC Decision No. 101.
- (4) The ESRC-SG therefore assessed the need to review the practical implementation of Decision No. 101 at its meeting in October 2018 and proposed updated principles to the 29th Meeting of the EAD Service Steering Group (EAD SSG) in November 2018.
- (5) The EAD SSG advised favourably upon the updated principles and invited the ESRC-SG to prepare a revised services charging scheme to be proposed at the next EAD SSG meeting for subsequent approval.
- (6) On 4 April 2019, the second meeting of the ESRC-SG agreed upon a new EAD Charging Scheme and an update of the EAD Agreement (with a new attachment describing the charging principles).
- (7) This new charging scheme is applicable from 1st January 2020.
- (8) The projection of the revenues based on the new charging principles show an increase of UPP revenues of 25% as compared to 2019 (i.e. 1.25M€ in revenues in 2020 compared to 1M€ in 2019).
- (9) It is expected that the revenues for 2021 will be impacted by the covid-19 situation.

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## 7 Information on the implementation of new infrastructure

- (1) The following major EAD enhancements will contribute to further improving the performance of EAD as an air navigation service provider:
- SDD/WFM HMI and supporting changes to provide B2C functionality for SDD DP
  - Subsystem improvements
  - Basic software upgrades (Java, Windows, Adobe etc. versions)
  - Phase out Java in the browser since support for embedded Java is being removed for security and other reasons
  - The following hardware and capacity changes are planned:
    - Replacement of the OPS servers and the data storage sub-system at the Frequentis data-centre.
    - Replacement of the OPS servers at the T-Systems data-centre
    - Increased bandwidth for the Metropolitan IP-network between Frequentis and T-Systems

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## 8 Abbreviations

Term	Description
ADQ	Aeronautical Data Quality
AFTN	Aeronautical Fixed Telecommunication Network
AIC	Aeronautical Information Circular
AICM	Aeronautical Information Concept Model
AIM	Aeronautical Information Management
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical Information Services
AIXM	Aeronautical Information Exchange Model
ANSP	Air Navigation Service Provider
ASHTAM	NOTAM reporting ash hazard
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
BF	Briefing Facility
DOP	Data Operations Service Provider
DP	Data Provider
DU	Data User
EAD	European AIS Database
EADAP	EAD Annual Plan
EC	European Commission
ECAC	European Civil Aviation Conference
ECAC+	States surrounding ECAC Area
EASA	European Aviation Safety Agency
ECIT	EAD Client Interface
EAIM	European Aeronautical Information Management
ESI	EAD System Interface
ESRC	EAD Service & Royalties Charging
ESRC - SB	ESRC – Sub Group
FTE	Full Time Equivalent
ICAO	International Civil Aviation Organization
IFPUV	IFPS Validation system
INO	International NOTAM Operations
IT	Information Technologies
ITP	IT Provider
KPI	Key Performance Indicator
MET	Meteorological data
NOTAM	Notification to Airmen
NSA	National Supervisory Authority
NMD	Network Management Directorate
NS	Network Services

<b>NMD</b>		<b>EUROCONTROL</b>
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<b>Term</b>	<b>Description</b>
PAMS	Published AIP Management System
OPADD	Operating Procedures for AIS Dynamic Data
PERM NOTAM	Permanent NOTAM
PIB	Pre-flight Information Bulletin
SARPS	Standards and Recommended Practices
SDC	Static Data Completeness
SDD	Static and Dynamic Data
SDO	Static Data Operations
SDM	Static Data Management
SLS	Service Level Specifications
SNOWTAM	NOTAM reporting snow hazard
SP	Service Provider
SQSM	Safety & Quality Systems Management
SSG	Service Steering Group
SUP	Supplement
TAM	NOTAM, ASHTAM, SNOWTAM, BIRDTAM
TID	Test Item Discrepancy
TP	Training Provider
XML	Extensible Mark-up language

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