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EDF Cloud2Cloud integration

EDF SMART OA API

ENG

PHOENIX CONTACT

Table of Contents

Table of Revisions

Date	Version	Description of Changes	Status	Author
15/09/2026	1.0	Initial document	Released	Frederik Leempoels

1 Document purpose

This document explains how the MINT Energy Management System integrates with the EDF Smart OA platform to receive and execute curtailment orders for configured customer sites. It translates the underlying implementation into a clear customer view of the data flow, responsibilities, security measures and scope boundaries.

In one sentence
MINT retrieves EDF curtailment orders, maps them to the correct site and controllable asset, applies the requested limitation through the MINT control chain, and returns an acknowledgement to EDF.

1.1 Audience

The document is intended for customer project managers, technical stakeholders, IT/security teams and operations teams involved in the onboarding and use of the EDF curtailment integration.

2 Integration

The integration connects the EDF Smart OA API with MINT remote control capabilities. EDF remains the source of the curtailment order. MINT acts as the integration and execution layer for the customer site.

Component	Role in the integration
EDF Smart OA	Publishes curtailment orders and receives acknowledgements.
MINT EDF connector	Retrieves orders, validates and interprets the data, and orchestrates the processing flow.
MINT configuration	Links the EDF contract and plant combination to the corresponding MINT site and selected controllable asset.
MINT Site API	Provides configured site limits used when a limitation must be released or normal operation restored.
MINT Intent API	Transfers the resulting control intent to the configured site control chain.
Operational logging	Records processing and acknowledgement events for operational follow-up.

3 Data exchanged

Direction	Information
EDF to MINT	Curtailment order information required to identify and apply the requested limitation.
MINT internal	Site mapping, selected asset, configured limits and the generated control intent.
MINT to EDF	Acknowledgement of the processed curtailment order.

Continuous telemetry or DataPush data transfer to EDF is not part of this integration.

4 Configuration and prerequisites

Each site must be onboarded before orders can be processed correctly. Configuration is managed in the MINT portal under the site remote configuration for the dedicated EDF partner integration.

Required item	Description	Owner
EDF API access	Valid credentials for the relevant EDF environment.	Customer / EDF, coordinated with Phoenix Contact
EDF mapping	EDF contract and plant combination linked to the MINT site.	Customer / commissioning team
Target asset	Selection of the controllable site asset.	Customer / commissioning team
Site limits	Maximum or normal-operation limits available for release of curtailment where applicable.	Customer / commissioning team
IP allowlisting	The fixed outbound source IP must be accepted by EDF for the production API.	Customer / EDF
Production partner setup	The EDF partner configuration and application identity must be commissioned for production.	Phoenix Contact

4.1 Credential model

The solution supports a shared credential set or credential sets configured per customer/site context. Processing is performed separately per credential set because EDF acknowledgements group the plants and contracts belonging to the same curtailment order.

API credential lifecycle management must be planned operationally. The source design notes that EDF API keys expire every six months; automated token refresh is not included in the current scope.

5 Connectivity and security

EDF uses an IP whitelist for its production API. To provide a stable outbound source address, MINT currently routes EDF API calls through a dedicated proxy hosted in the MINT Azure environment.

Control	Customer-facing explanation
Fixed outbound IP	EDF can restrict production API access to the known MINT source address.
Outbound-only use	The proxy supports MINT-initiated API calls to the approved EDF endpoints.
Authentication	Proxy access is protected by credentials; administrative access uses key-based SSH.
Network restrictions	Azure network security rules restrict access to approved sources and required ports.
Domain allowlist	Proxy filtering is configured as an allowlist for the required EDF domains.
Reduced information exposure	Unused human-readable proxy and statistics pages are disabled.

Architecture note

The proxy is a temporary connectivity solution. A future target architecture may use native virtual network integration with a NAT gateway to provide static egress directly from the application environment.

5.1 Sensitive technical information

Operational IP addresses, credentials, private keys, firewall source addresses, code samples and internal administration links are intentionally excluded from this customer-facing document. They remain controlled operational information.

6 Monitoring and operational handling

The integration records processing events in an operational log. This supports technical follow-up of retrieved orders, generated intents and acknowledgements. No additional customer dashboard is included in the current scope.

Situation	Expected handling
Temporary EDF API issue	The daily retrieval mechanism retries the request where required.
Mapping missing or incorrect	The order cannot be reliably assigned and requires configuration correction.
Credential expired or invalid	API access must be restored by renewing or replacing the affected credential.
Control intent not accepted	The issue is investigated in the MINT processing and operational logs.
Acknowledgement issue	The EDF response path and the relevant credential-specific request are checked.

6.1 Operational dependency

Successful execution depends on valid EDF API access, correct site and asset mapping, available MINT services, and an operational site control chain. The acknowledgement confirms processing of the integration flow; it should not be interpreted as independent proof of physical site response unless this is verified through the site's operational measurements.

6.2 Conclusion

The EDF Smart OA curtailment integration provides a structured bridge between EDF orders and MINT site control. It automates retrieval, mapping, execution, acknowledgement and operational logging while keeping configuration and connectivity under controlled management.