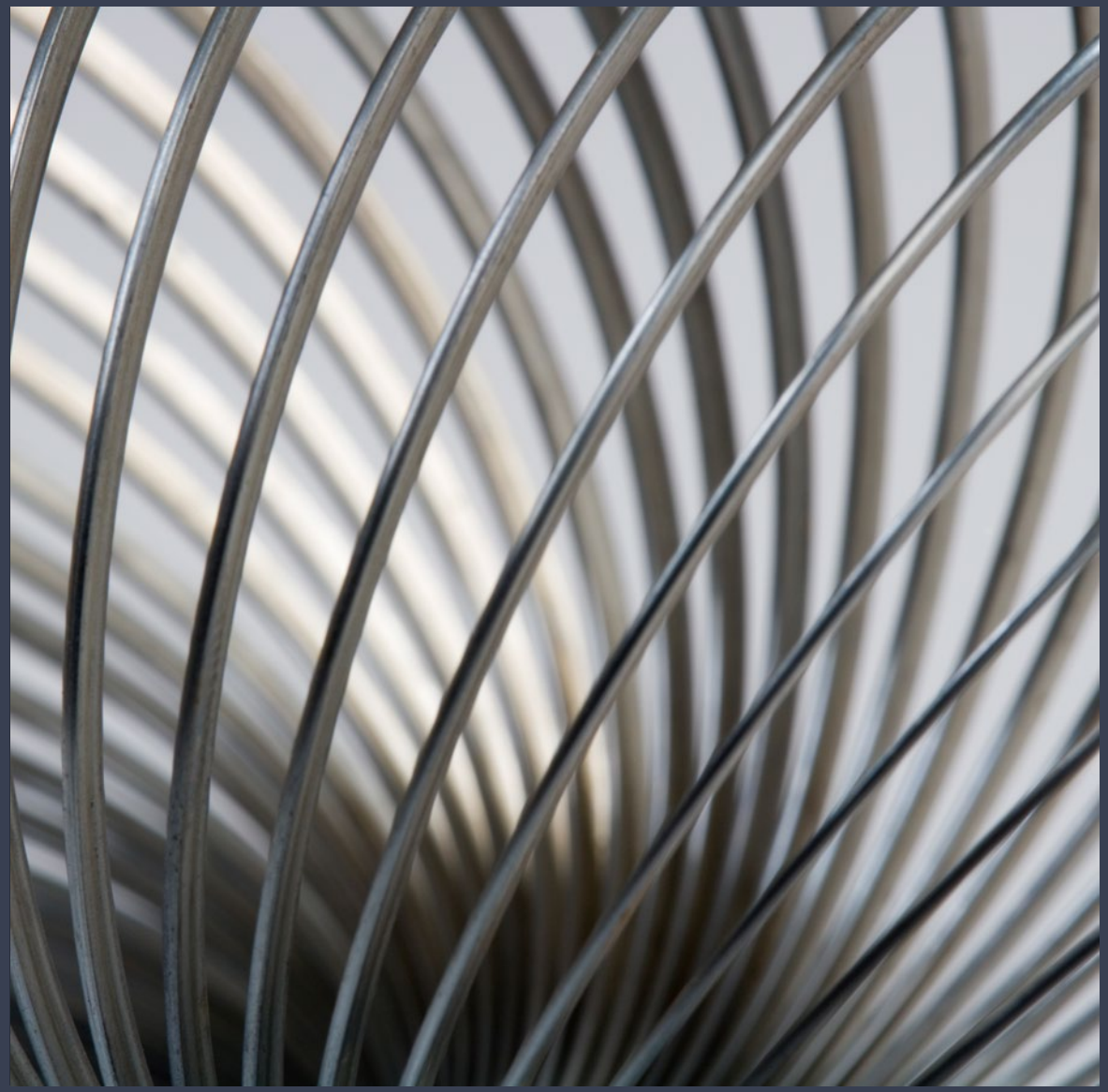
NUGM 2024

# MANAGE 2000 AS A REST CONSUMER



Peter Newby, Epicor

# AGENDA

The End Game

REST Fundamental Concepts

Manage 2000 REST.SERVICES

REST.NEWS and REST.MSO

A PWS function as a front-end to REST Services

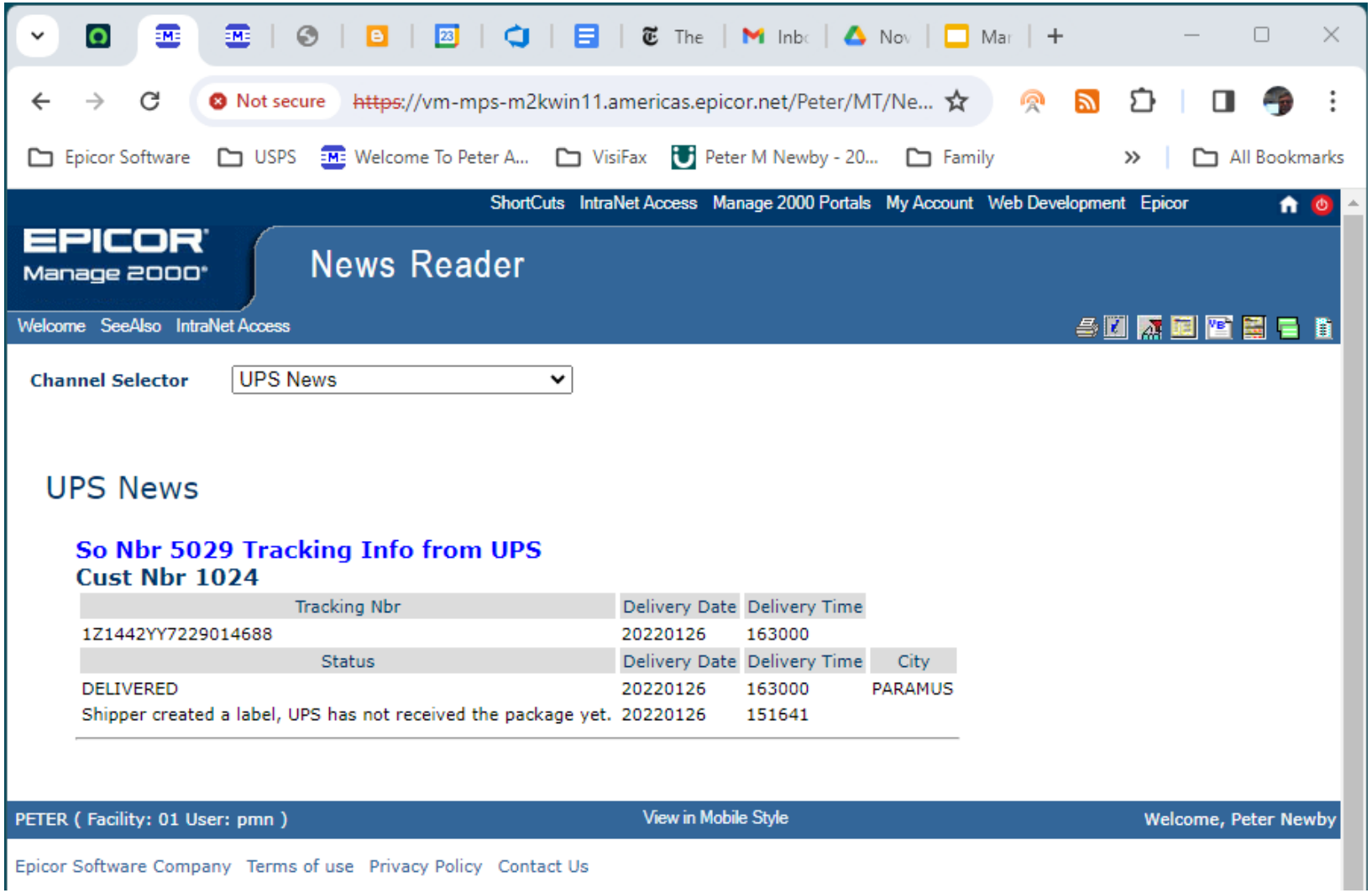
# THE END GAME

ERP System Integrated with the World

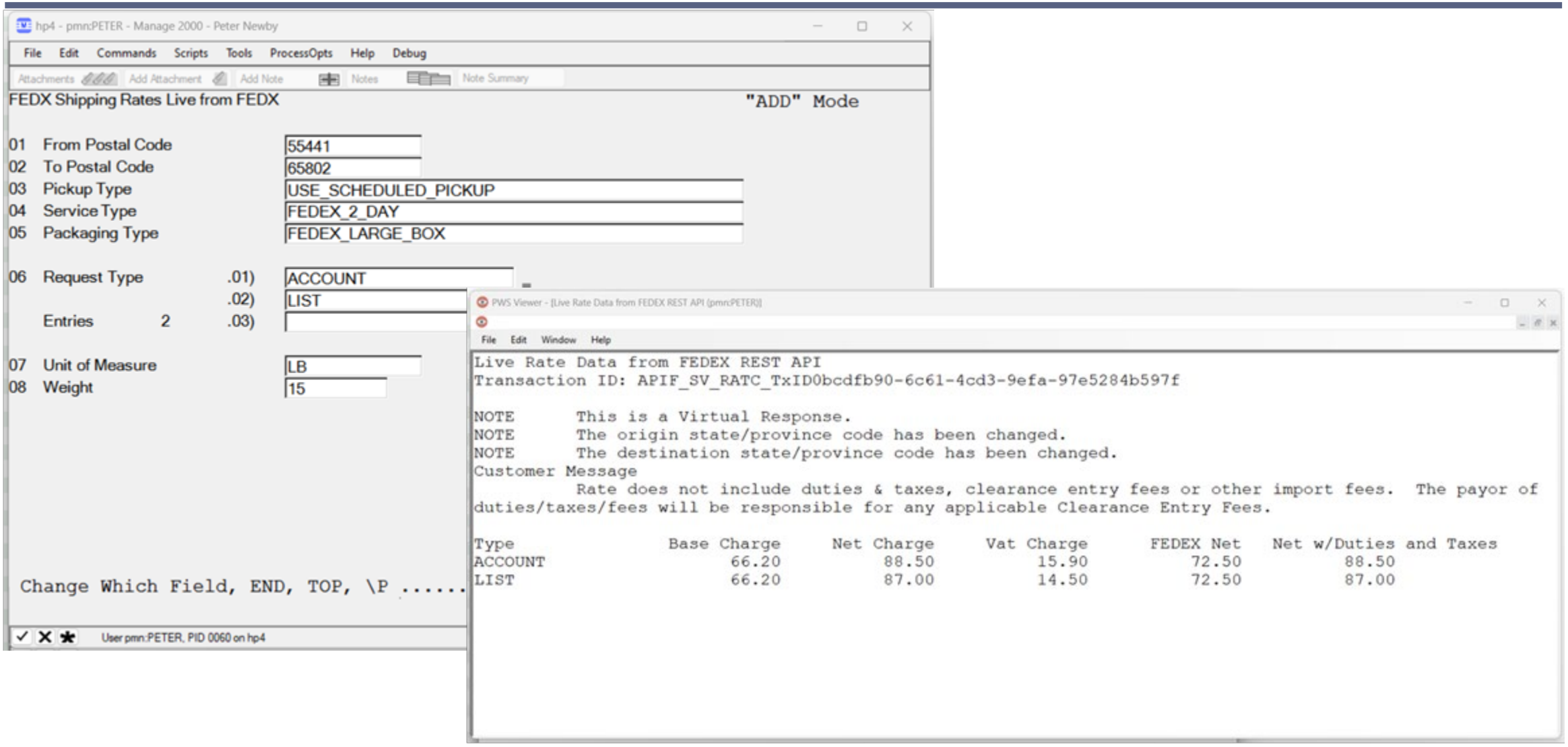
# POSSIBLE REST SERVICE INTEGRATIONS

- Third Party Logistics (3PL)
  - FEDEX, UPS, USPS, Aggregators
    - Tracking, Rate Quotes, Times in Transit, Regulatory Documents and Advisories, Trade Documents Upload
- Cloud Talk
  - AWS
  - Azure
  - Shopify
  - Adobe Acrobat Sign
- Internal Integrations
  - Power BI, Excel
  - MES
  - Parent company systems

# THIRD PARTY LOGISTICS INSIDE MANAGE 2000



# PWS FUNCTION WITH FEDEX BACKEND



# REST CONCEPTS

# REST CONCEPTS

1. URL Based Resource - https… to some URL endpoint
2. HTTP Methods **POST** and **GET**
    1. Less used in JSON APIs - PUT, PATCH, DELETE, CONNECT,OPTIONS, TRACE
3. Security Versions SSL 3.0  TLS v1.1, **TLS v1.2**, TLS v1.3
4. Authentication Schemes
    1. Unauthenticated
    2. Authenticated
        1. Form Variable
        2. HTTP Header Variable - Basic Authentication, Bearer Token (JWT) …
5. Parameter Passing
    1. Querystring (GET)
    2. Form Variable (POST)
    3. Route Path Variable (GET,POST)
    4. HTTP Header (GET,POST)
    5. HTTP Body JSON package (POST)
6. Result – HTTP Body JSON package, maybe plain text, maybe HTML, maybe BLOB

# REST.SERVICES

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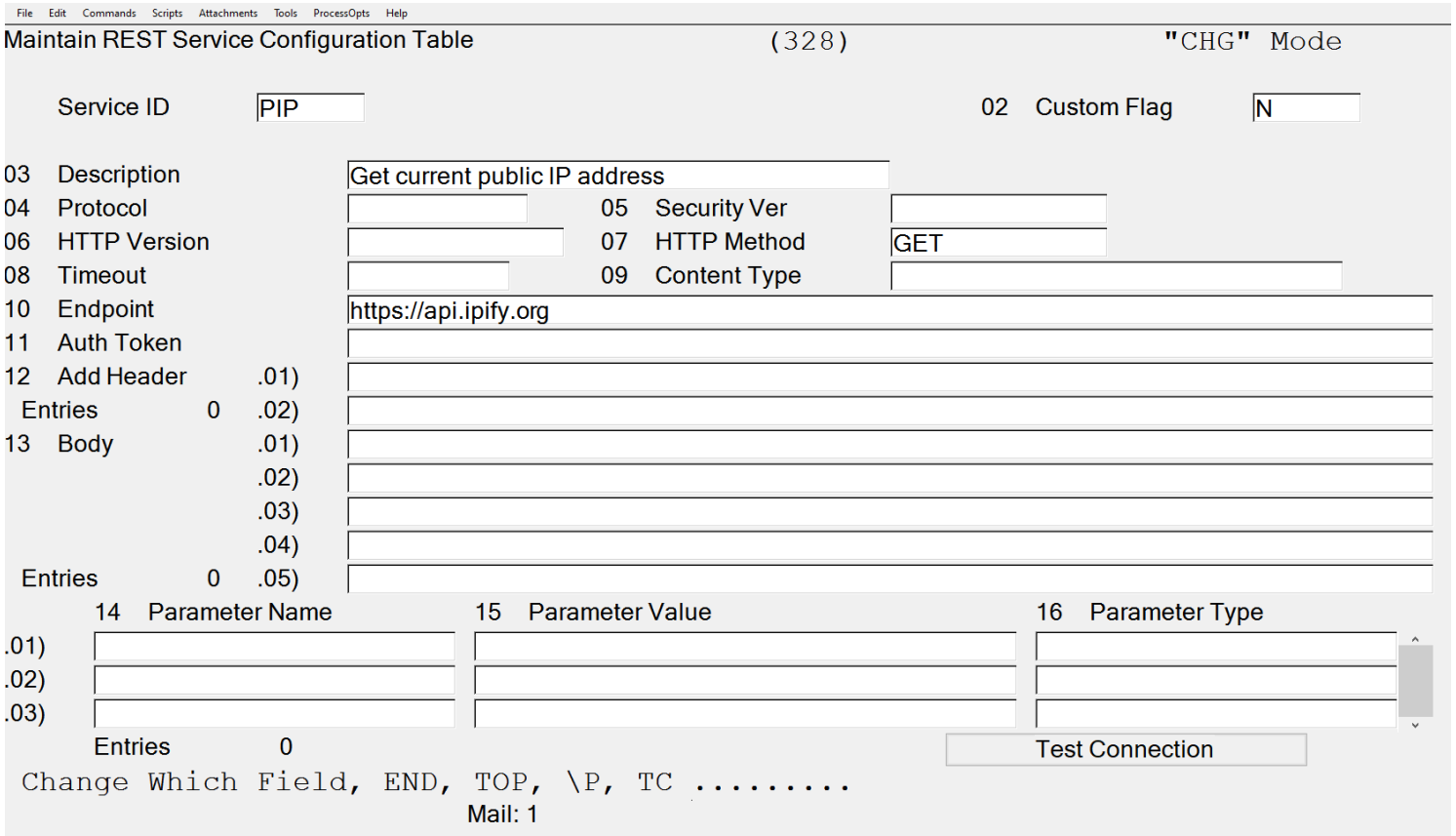
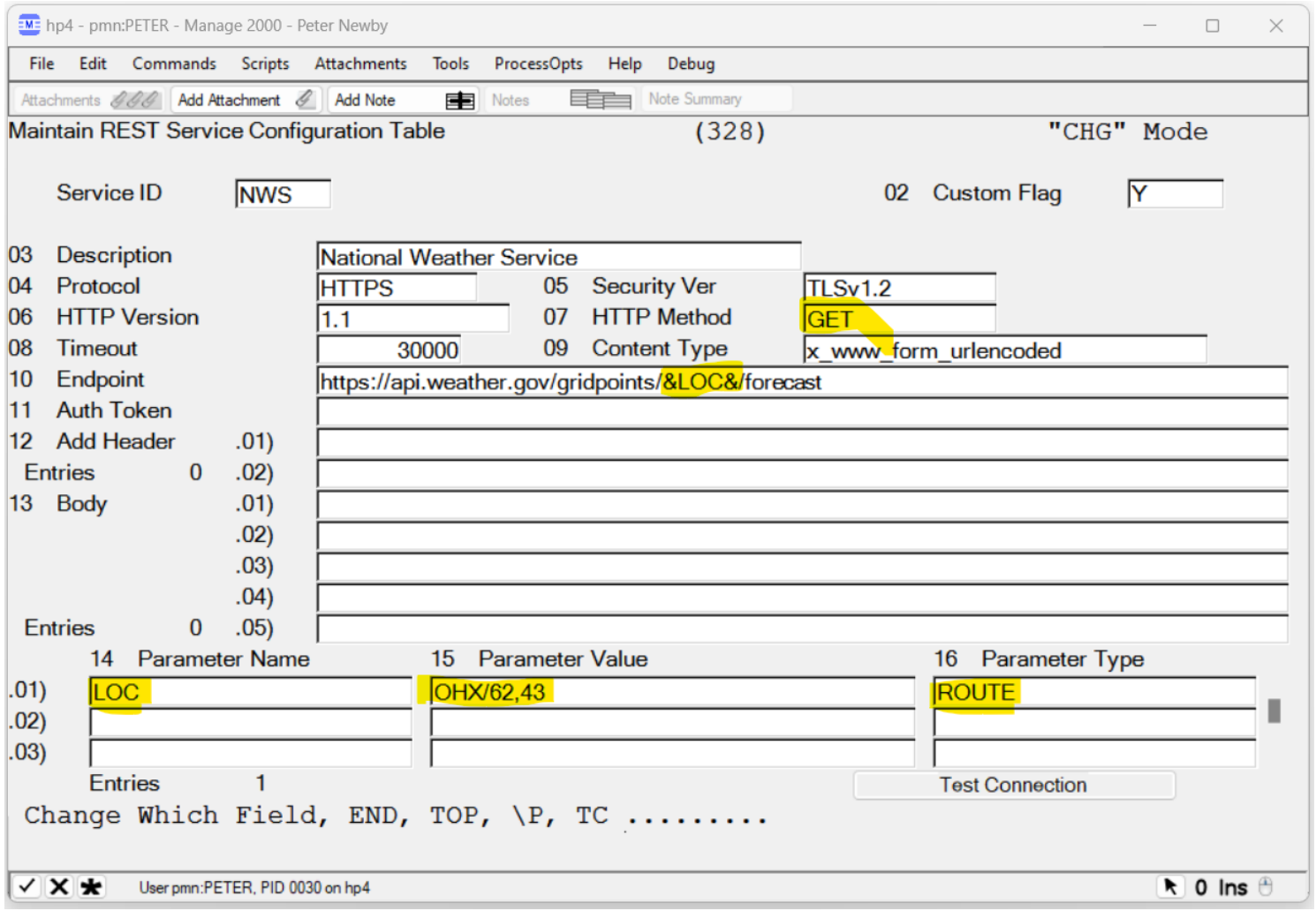
# PUBLIC IP EXAMPLE



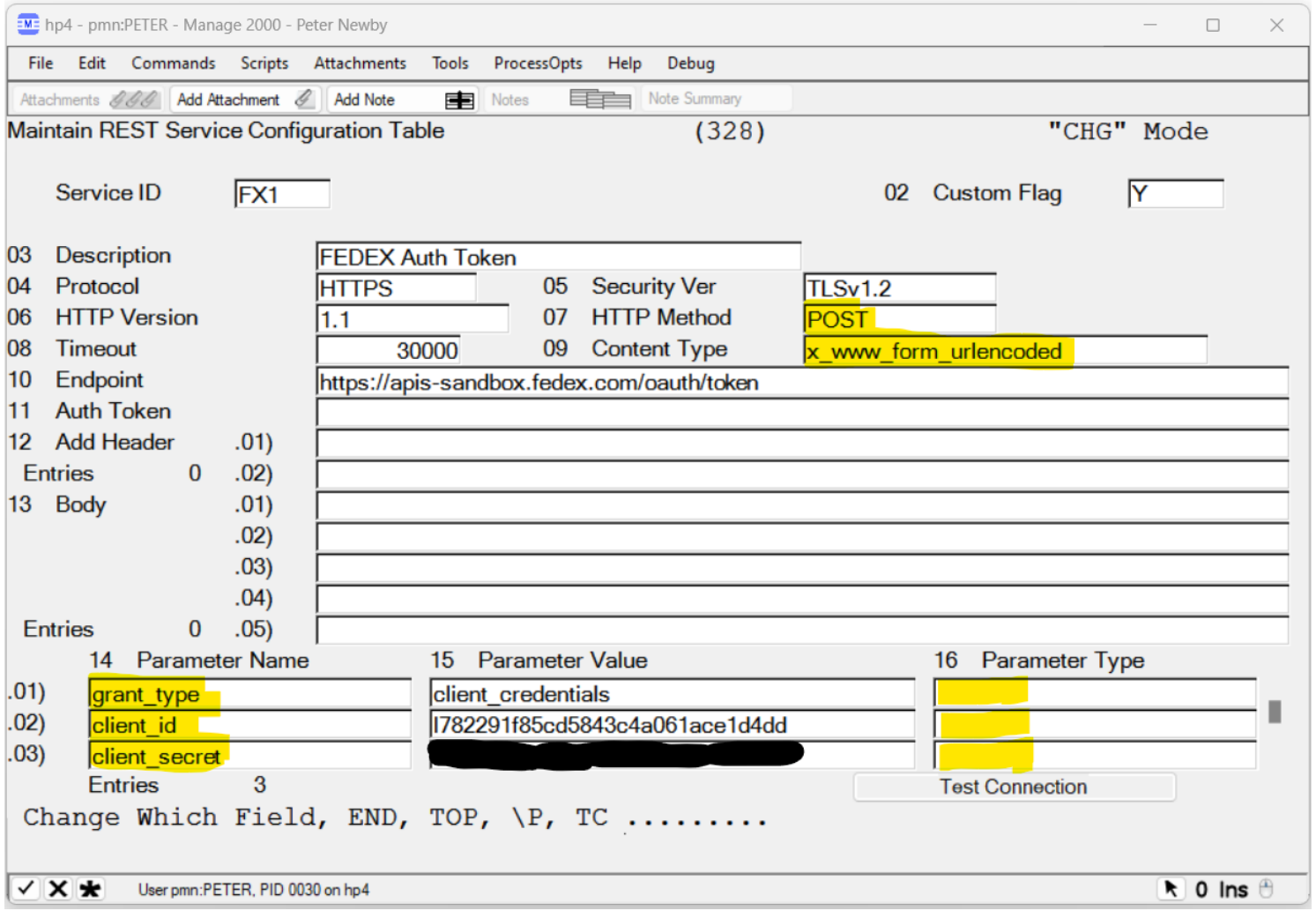

- Simple GET with no parameter and no authentication

# NATIONAL WEATHER SERVICE EXAMPLE




- GET with route parameter and no authentication

# FEDEX AUTHENTICATION EXAMPLE




- POST with text/plain Form Variables

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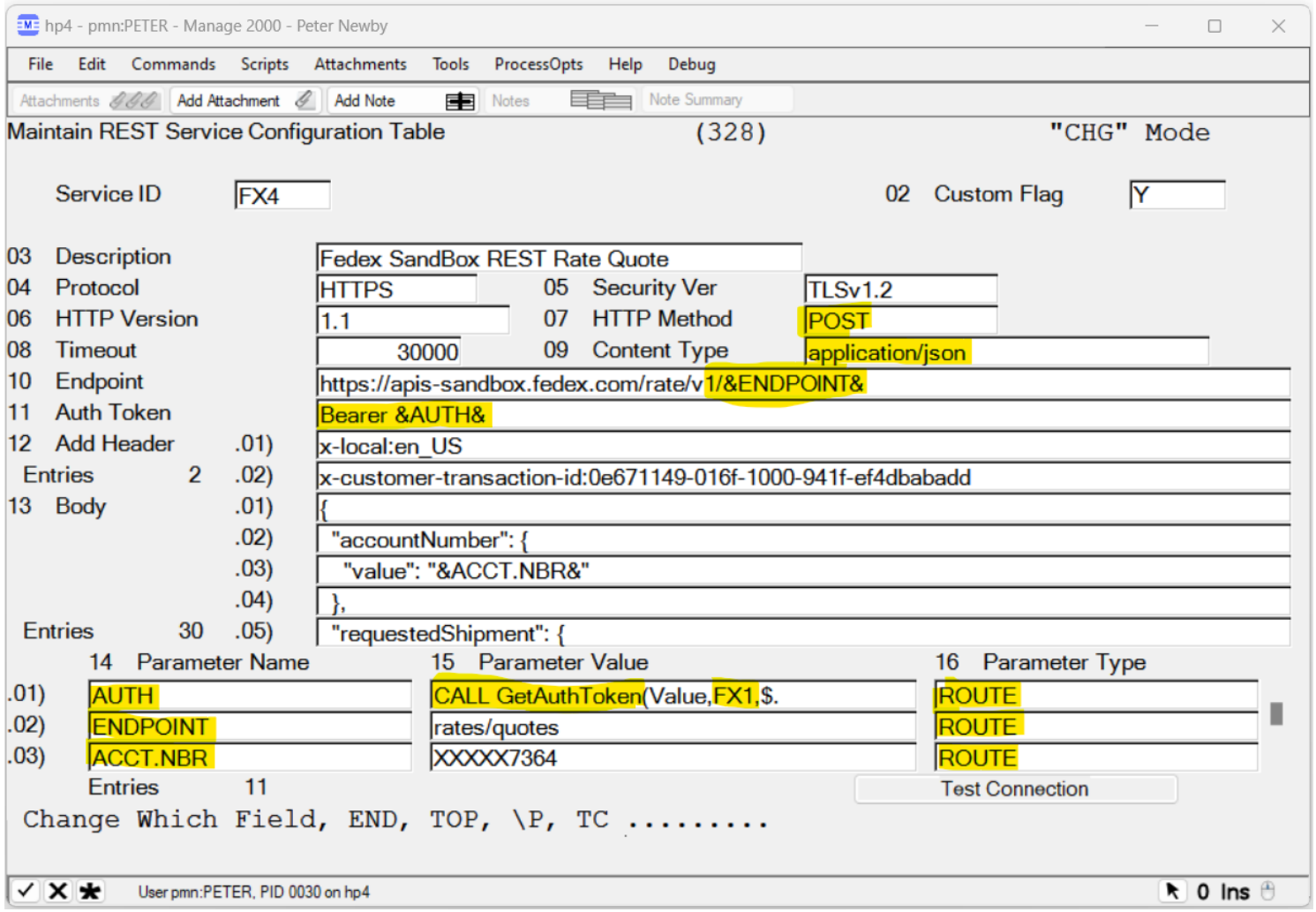
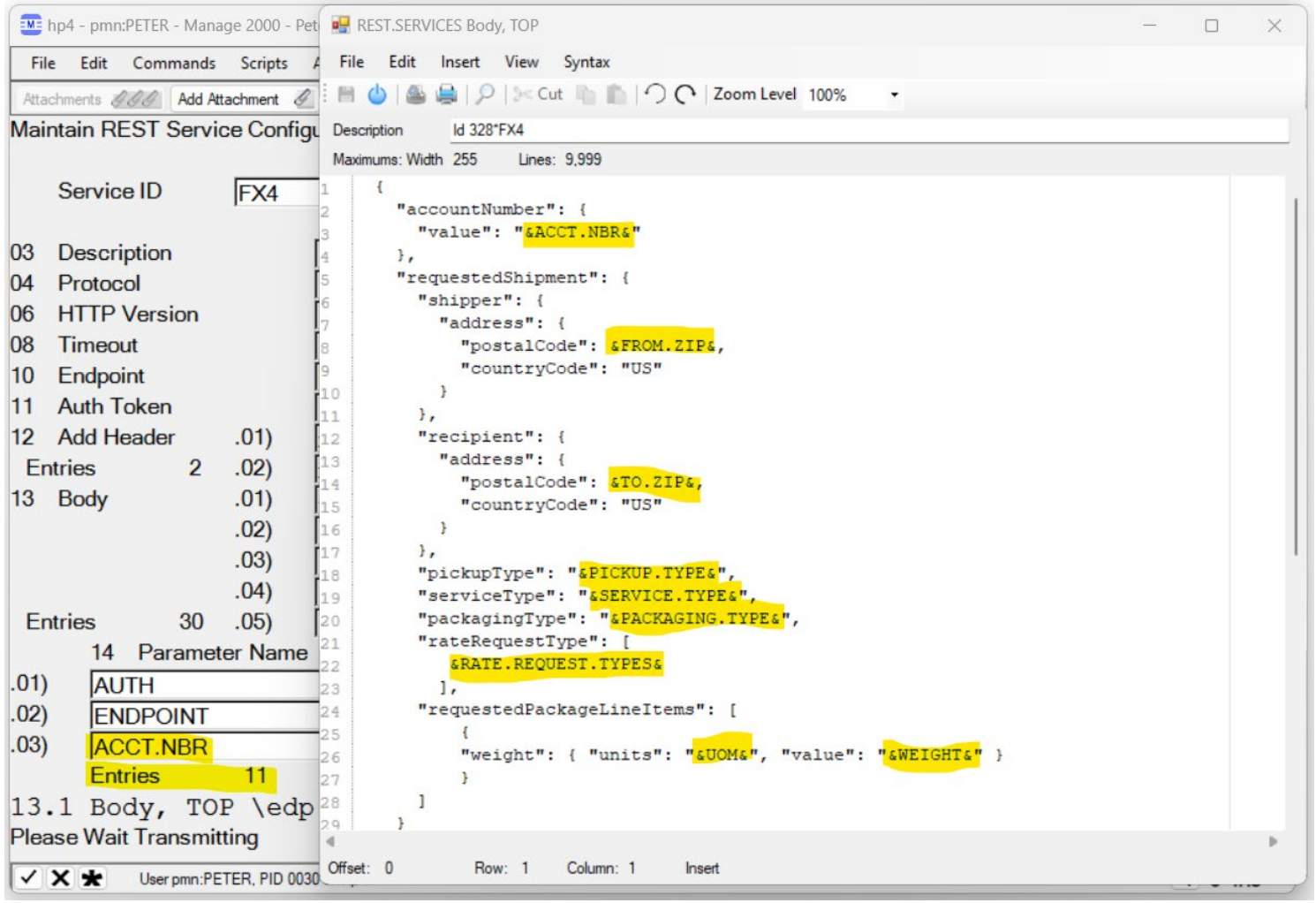
# FEDEX RATE REQUEST




- POST with HTTP Header OAUTH Bearer Token (JWT) Authentication and with ROUTE variable and JSON HTTP Body Request, supporting many complex input variables
- Auth token retrieval delegated to REST.SERVICE FX1 by using a call to GetAuthToken

# HTTP BODY JSON PARAMETER PASSING




- Values in the Body can be parameterized allowing applications to make complex requests
- Default values can be codified in the REST.SERVICES record and only overridden as needed

# INCORPORATING REST INTO MANAGE 2000

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# APPROACHES TO USING REST IN MANAGE 2000

- Create news articles incorporating REST content
- Create Manage 2000 Software Objects (MSO) with REST Content
- Create custom REST processes using the tools subroutine REST.SERVICE
- Create Manage 2000 functions based on REST functionality

# REST.NEWS

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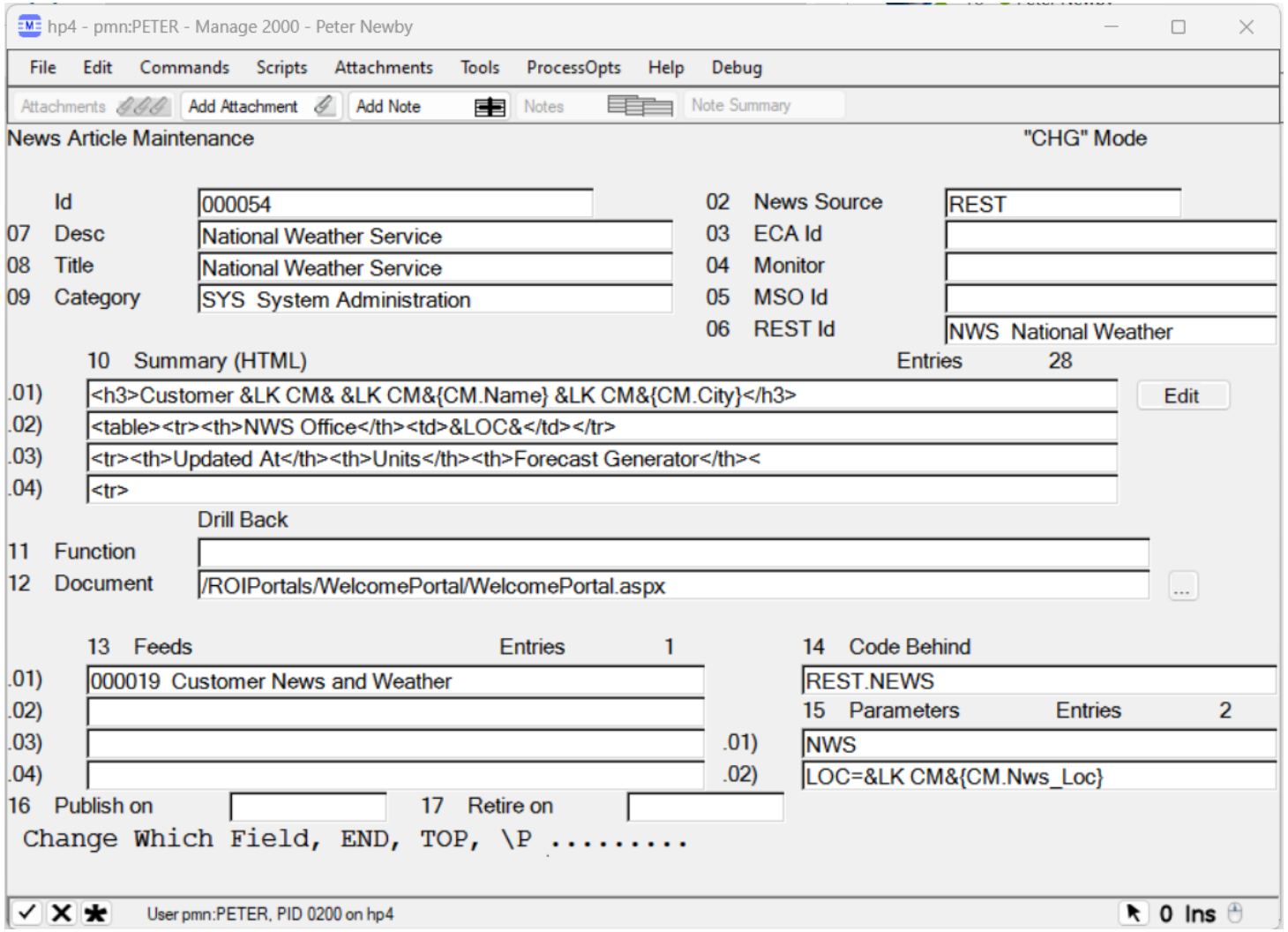
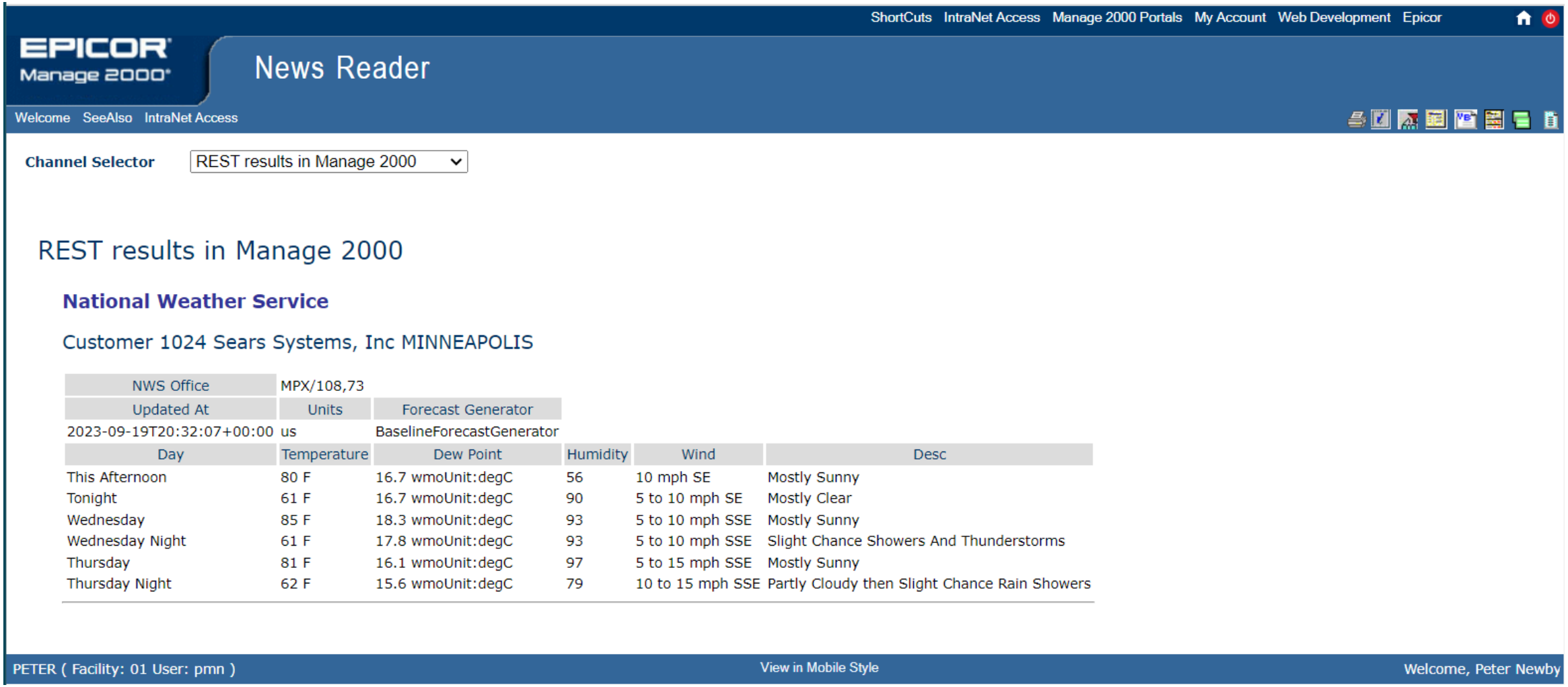
# NEWS.ARTICLE REST NEWS SOURCE

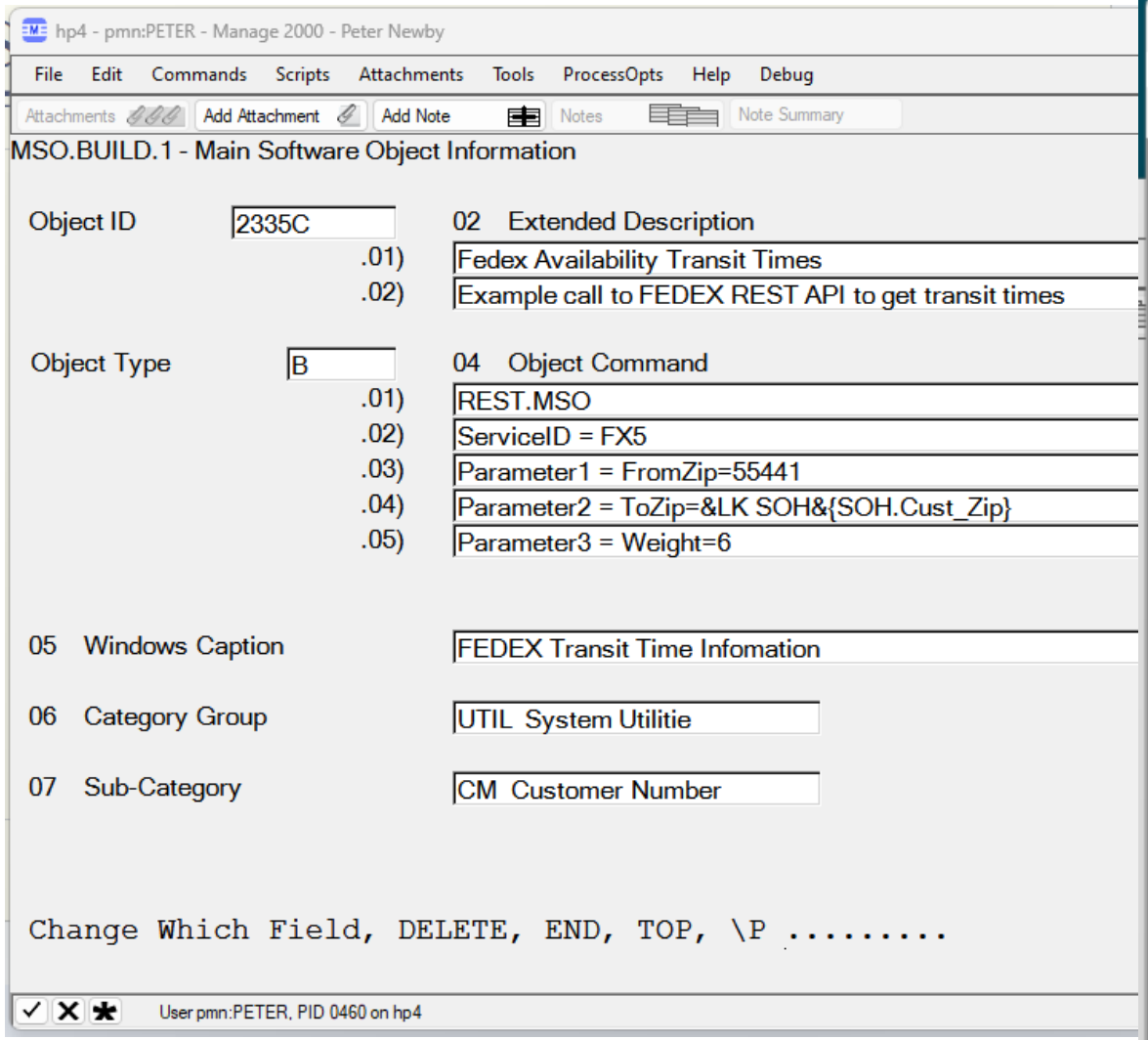


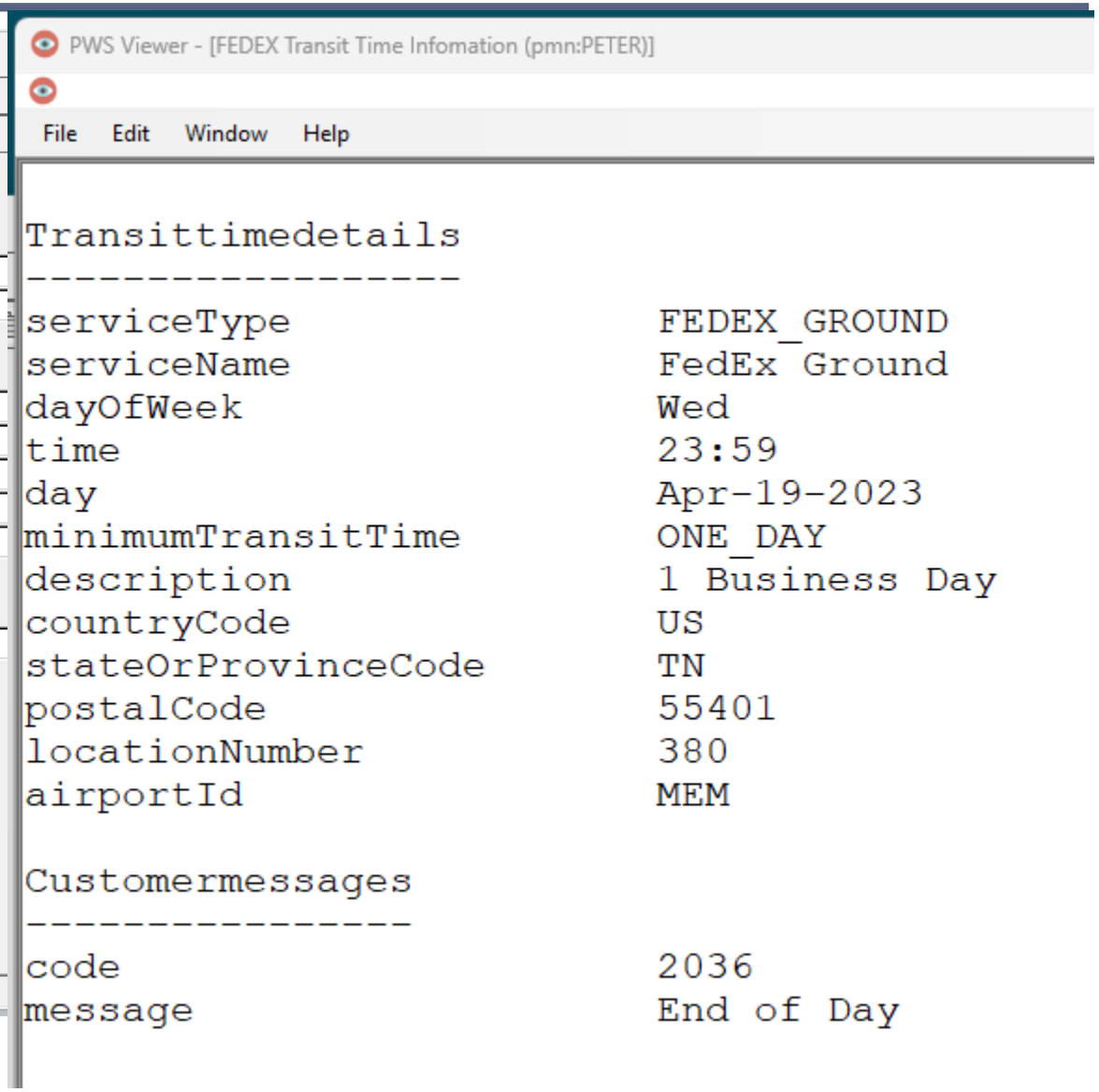
# NEWS.ARTICLE FROM OUT THERE



# REST.MSO

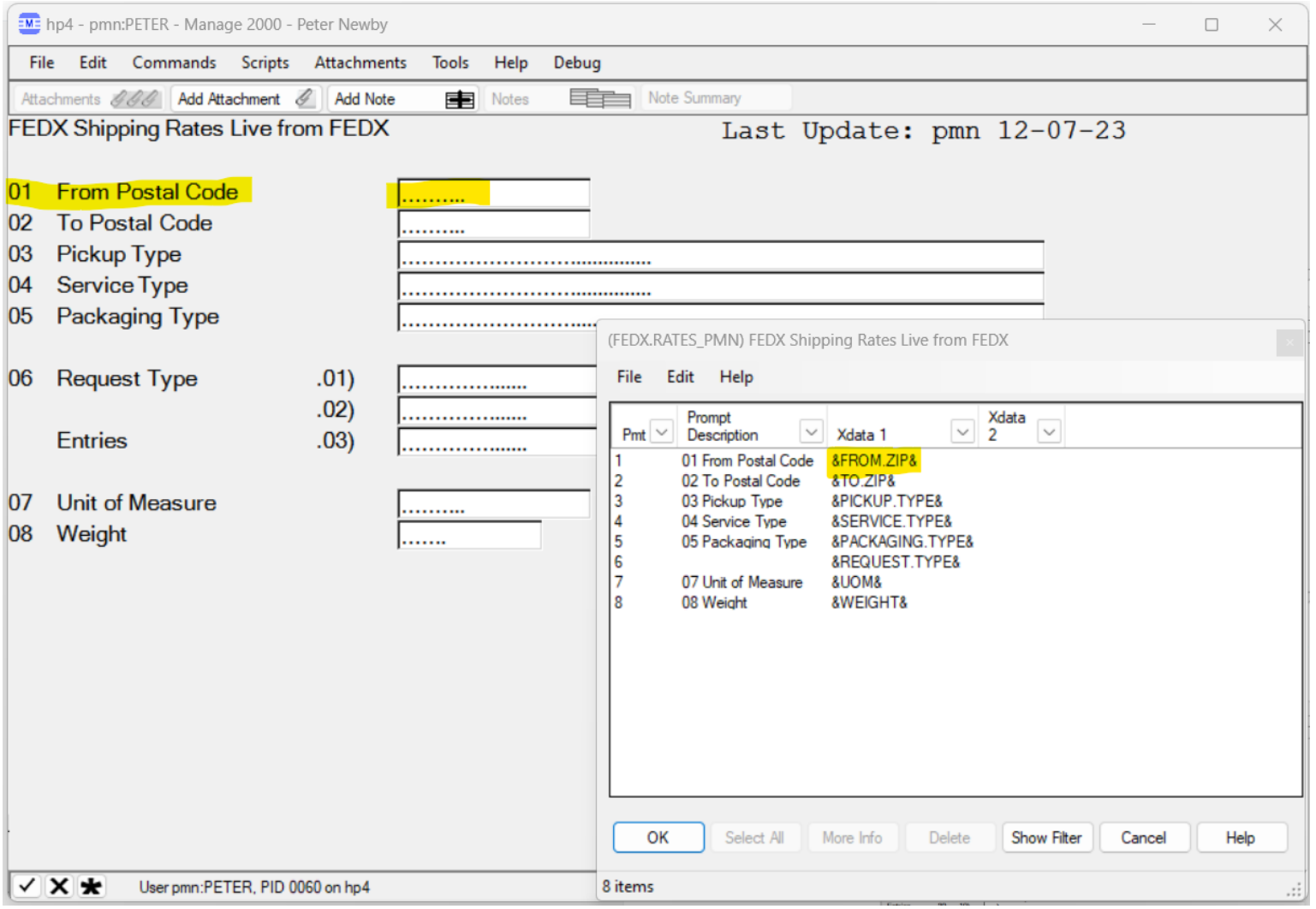
# MSO.BUILD REST NEWS SOURCE



# WRITING A REST APPLICATION

# SCREEN.BUILD A UI

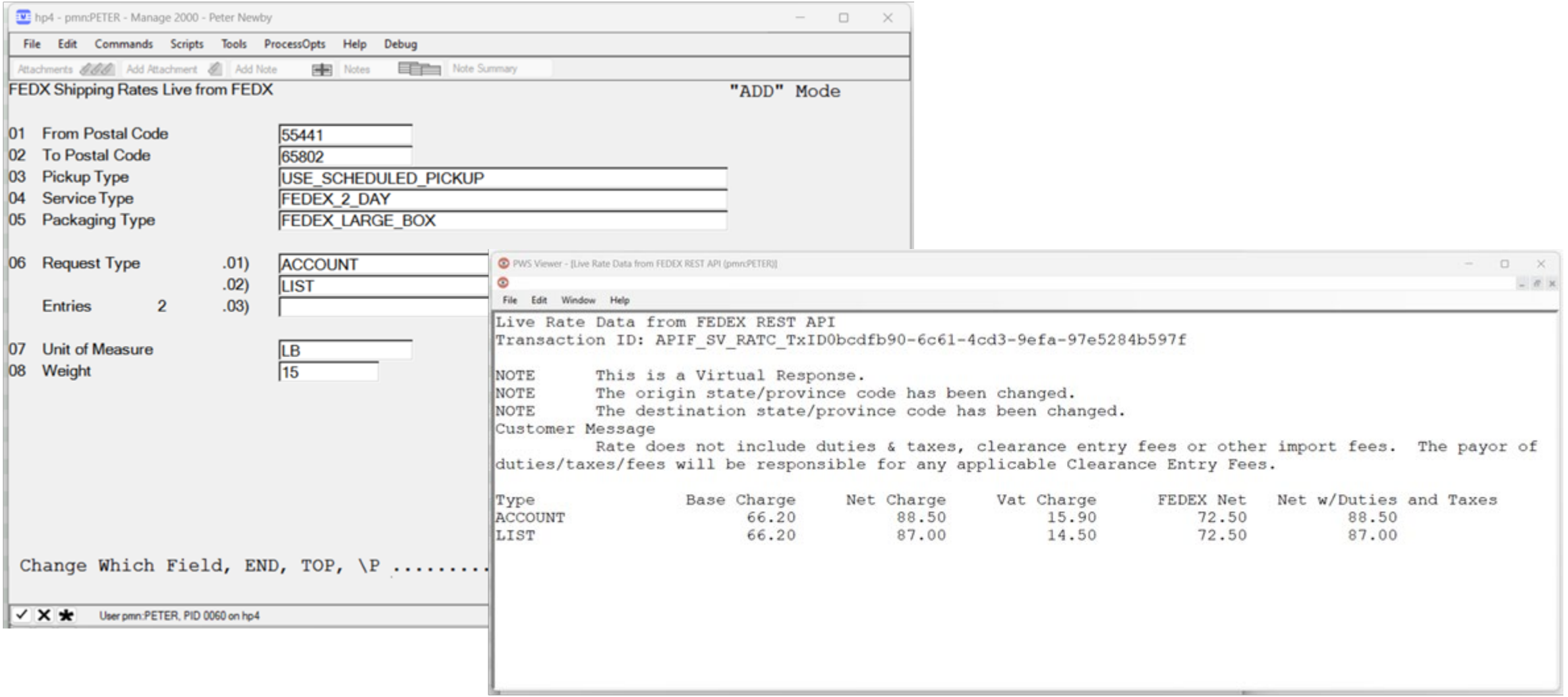


# WRITE THE APPLICATION CODE

Create a new program with PGM.BUILD and add code to:

1. Call SUB.MT500 to run the screen
2. Overlay the variables from the screen to the REST common
3. Call REST.SERVICE
4. Parse the result with JPATH
5. Present the results to user, perhaps in the PWS Viewer using SUB.TEXT.OUTPUT

# PWS FUNCTION WITH FEDEX BACKEND



# CONCLUSION

# USING MANAGE 2000 8.1 SP6 REST.SERVICES

- Make information and services from across the Internet available within Manage 2000 ERP functions.

- Have Manage 2000 functions reach across the Internet accessing services, initiating processes, and incorporating information from other systems and organizations.

- Automate collaboration.
- Request Treasure # 40672 and 40673 to support delegated authentication and provide more flexible REST.SERVICES entry screen.

# QUESTIONS AND ANSWERS

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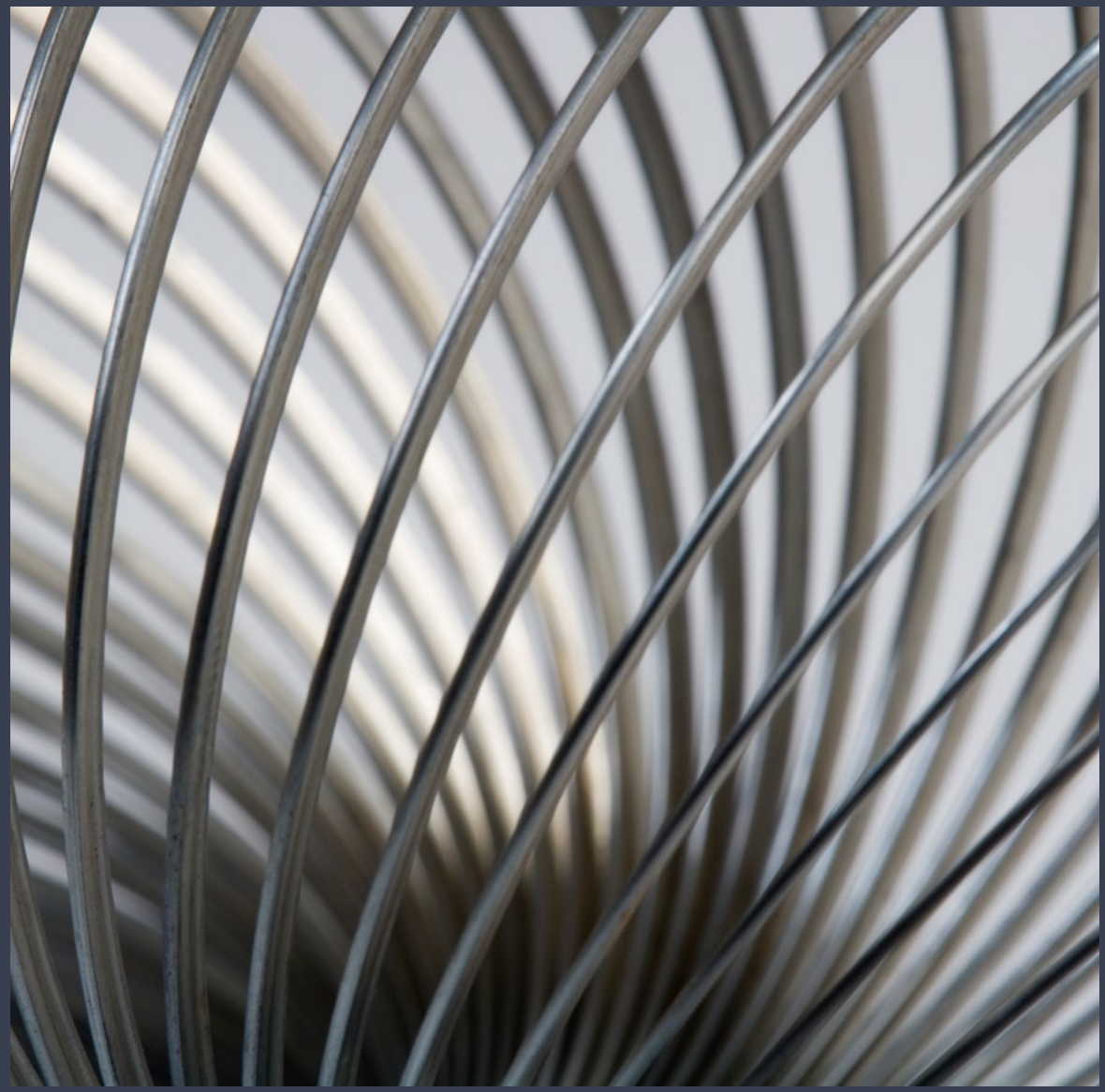
# THANK YOU