IPP Authentication Using HTTP OAuth2 Authentication

Taken in part from: https://petermcintyre.com/2011/10/31/creating-sequence-diagrams/

1. Do something that triggers Client need to interact with Printer

2. Formulate IPP operation request payload (application/ipp)

3. Perform HTTP POST of request payload

4. POST /ipp/print HTTP/1.1
   Content-Type: application/ipp
   Expect: 100-continue

5. HTTP/1.1 401 Unauthorized
   WWW-Authenticate: Bearer realm="User Visible Realm"

6. Request authentication

7. Get URL from "oauth-authorization-server-uri"

8. Retry with URI from "oauth-authorization-server-uri"

9. POST /resource/path/from/auth/server/uri HTTP/1.1
   Content-Type: application/ipp
   Expect: 100-continue

10. HTTP 302 Found
    Location: http://AuthService.foo.com/auth/

11. HTTP GET authentication UI

12. HTTP/1.1 200 OK
    respond with authentication UI page content

13. Show authentication UI page content

14. View authentication UI page content

15. Enter credentials

16. Submit credentials

17. POST the credentials form

18. Check credentials and accept

19. HTTP 302 redirect to redirection endpoint

20. GET auth grant exchanged

21. POST request access token

22. HTTP 200 OK with access token

23. HTTP 302 redirect to original URL (IPP URI)

24. POST /ipp/print HTTP/1.1
    Content-Type: application/ipp
    Expect: 100-continue

25. HTTP/1.1 100 Continue

26. << Send the application/ipp payload >>

27. Deliver IPP operation request

28. Formulate IPP operation response

29. Return IPP operation response

30. HTTP/1.1 200 OK
    Content-Type: application/ipp

31. Deliver the IPP operation response

32. Process the operation response

33. Present something from the operation response(s)

34. Done