Using Provisioning Domains for Captive Portal Discovery
draft-pfister-capport-pvd-00

Abstract

   Devices that connect to Captive Portals need a way to identify that
   the network is restricted and discover a method for opening up
   access. This document defines how to use Provisioning Domain
   Additional Information to discover a Captive Portal API URI.

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   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

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   This Internet-Draft will expire on January 1, 2019.

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1. Introduction

   The Captive Portal Architecture [I-D.ietf-capport-architecture]
   defines the interaction model for how client devices (also referred
   to as User Equipment) interact with a network that is restricted and
   requires explicit user interaction to allow a device to access the
   Internet. The first step of this process involves a Provisioning
   Service communicating with the User Equipment to indicate that the
   network is captive, and how to get out of captivity. The key piece
   of information that the Provisioning Service provides is the URI of a
   JSON-based API that allows the User Equipment to interact with the
   captive portal. This API is specified in [I-D.ietf-capport-api].

   This document defines the mechanism for using Provisioning Domain
   (PvD) Additional Information as the Captive Portal Provisioning
   Service. A PvD defines a consistent and usable set of network
   configurations [RFC7556]. A Captive Network is one example of a PvD
   that has unique properties that a device needs to be aware of when
   presenting networks to generic applications. Naming specific PvDs
   and presenting a set of Additional Information for a PvD is defined
   in [I-D.ietf-intarea-provisioning-domains].

2. Captive Portal URI Option

   The Additional Information fetched for a PvD is presented as JSON.
   This document defines a new key to be used to identify the Captive
   Portal API URI. As specified in [I-D.ietf-capport-api], this URI
   MUST have an "https" scheme.

   JSON Key: captive-api

   Description: URI of Captive Portal API

   Type: UTF-8 string [RFC3629]

Example: "https://captive.example.com/api"

3. Client Behavior

When a client device that support PvDs attaches a network, it will
discover if there is one or more named PvDs on the network with a
Router Advertisement as specified in
[I-D.ietf-intarea-provisioning-domains].

If the PvD indicates that it has Additional Information, the client
device SHOULD fetch the Additional Information prior to allowing the
PvD to be used for generic network access, in case the network is
restricted or captive. If the Additional Information contains the
"captive-api" key, then the client device can interact with the
Captive Portal API before proceeding with using the network. If the
Additional Information does not contain the "captive-api" key, then
the client SHOULD assume that the network is not captive, and proceed
with using the network.

If the PvD indicates that it has no Additional Information, the
client device SHOULD assume that the network is not captive, and
proceed with using the network.

It is possible that a misconfigured network will provide a named PvD
without explicitly marking the captive option, while still
restricting network access and providing a Captive Portal. In this
case, connections made by the client device may be blocked or
redirected, as occurs in captive network in which there is no
explicit provisioning.

4. Security Considerations

The Captive Portal PvD option is subject to the same security
considerations as any other options provisioned via Router
Advertisements and Explicit Provisioning Domains. This information
should not be used by client devices to trust the safety or security
of a network attachment.

5. IANA Considerations

This document adds a new key to the "Additional Information PvD Keys"
defined in [I-D.ietf-intarea-provisioning-domains]. See Section 2
for the new key definition.

6. Acknowledgements

   Thanks to contributions from Eric Vyncke, Mark Townsley, David
   Schinazi, and Kyle Larose.

7. References

7.1. Normative References

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7.2. Informative References

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