Header Insertion for Content Security

Use Case:

HTTP response can carry different header for ensuring better security of the payload/content. These headers help with different aspects of content and connection security.

F5 iRules:

```
when RULE_INIT {
  set static::fqdn_pin1 "X3pGTSOuJeEVw989IJ/cEtXUEmy52zs1TZQrU06KUKg="
  set static::fqdn_pin2 "MHJYVThihUrJcxW6wcqyOISTXIsInsdj3xK8QrZbHec="
  set static::max_age 15552000
}
when HTTP_REQUEST {
  HTTP::respond 301 Location "https://[HTTP::host][HTTP::uri]"
}
when HTTP_RESPONSE {
  #HSTS
  HTTP::header insert Strict-Transport-Security "max-age=$static::max_age; includ
eSubDomains"
 #HPKP
  HTTP::header insert Public-Key-Pins "pin-sha256=\"$static::fqdn_pin1\" max-age=
$static::max_age; includeSubDomains"
  #X-XSS-Protection
  HTTP::header insert X-XSS-Protection "1; mode=block"
  #X-Frame-Options
  HTTP::header insert X-Frame-Options "DENY"
  #X-Content-Type-Options
  HTTP::header insert X-Content-Type-Options "nosniff"
  #CSP
  HTTP::header insert Content-Security-Policy "default-src https://devcentral.f5.
com:443"
  #CSP for IE
```

```
  HTTP::header insert X-Content-Security-Policy "default-src https://devcentral.f
5.com:443"}
```

NetScaler Solution:

add ns variable fqdn_pin2 -type text(100)

add ns assignment as1 -variable $fqdn_pin1 -set
'"X3pGTSOuJeEVw989IJ/cEtXUEmy52zs1TZQrU06KUKg="'

add ns variable fqdn_pin1 -type text(100)

add ns assignment as2 -variable $fqdn_pin2 -set
'"MHJYVThihUrJcxW6wcqyOISTXIsInsdj3xK8QrZbHec="'

add ns variable max_age -type ulong
add ns assignment as3 -variable $max_age -set 15552000

add responder action actionnew redirect "\"https://\" +
HTTP.REQ.HOSTNAME.HTTP_URL_SAFE +
HTTP.REQ.URL.PATH_AND_QUERY.HTTP_URL_SAFE"

add responder policy policynew true actionnew

add rewrite action Rew_act INSERT_HTTP_HEADER "Strict-Transport-Security" "\"max-age=\" + $max_age"

add rewrite action Rew_act1 INSERT_HTTP_HEADER pin-sha256 "$pin-sha256 + \"max-age=\" + $max_age + \"includeSubDomains\""

add rewrite action Rew_act2 INSERT_HTTP_HEADER X-XSS-Protection "\""1\" +
\"mode=block\""

add rewrite action Rew_act3 INSERT_HTTP_HEADER X-Frame-Options "\"DENY"\"

add rewrite action Rew_act4 INSERT_HTTP_HEADER X-Content-Type-Options "\"nosniff"\"

add rewrite action Rew_act5 INSERT_HTTP_HEADER Content-Security-Policy "\"default-src https://devcentral.f5.com:443"\"

add rewrite action Rew_act6 INSERT_HTTP_HEADER X-Content-Security-Policy "\"default-src https://devcentral.f5.com:443"\"

Above configuration adds respective security headers to the HTTP response flowing through NetScaler.