ERICSSON

ERICSSON UNIFIED DELIVERY NETWORK

Administration Portal User's Guide

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Legal Information

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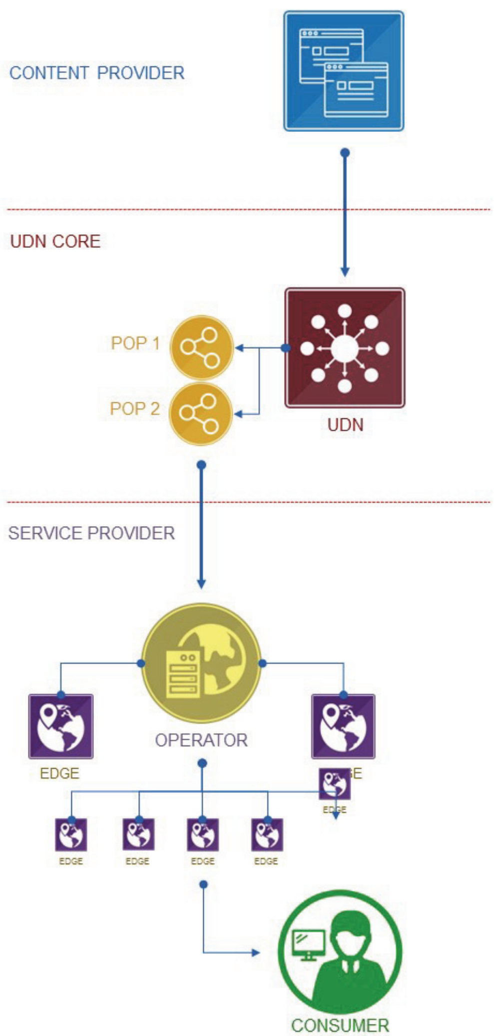
Chapter 1
UDN Overview

Ericsson's Unified Delivery Network (UDN) is a solution designed specifically to help Content Providers and Service Providers.

UDN consists of two delivery networks: the UDN Core network, located at the Internet's backbone with PoPs at strategic exchange points, and UDN partners' "last mile" network at the Service Provider edge.

Figure 1-1: High-Level UDN Overview



UDN System Components

The following sections describe the components that comprise the UDN System.

The UDN Portal

The UDN Portal provides a customized experience to each of the three primary users: Content Providers, Service Providers, and Service Administrators.

UDN Administrators can view and manage Customer Accounts, Groups, and Properties, view reports on content sources and content distribution, and manage content caching.

Content Providers can view and manage Groups and the Properties that belong to them, view reports on content sources and content distribution, and manage content caching.

Service Providers can view and manage Service Provider settings, and view reports on content delivery for both on-net and off-net traffic.

Edge Delivery Nodes

Edge delivery nodes are responsible for UDN streaming content delivery. Edge delivery nodes are optimized for streaming rather than storage. They are located as close to the consumer as possible to provide geo-optimized delivery of popular content. Whenever an asset or live stream reaches a certain popularity threshold, it is automatically and instantly replicated to the appropriate number of edge delivery nodes in the desired geographical location.

Analytics

UDN System analytics provides operators with the ability to understand both the composition and the volume of their content delivery. Data is collected, aggregated, and analyzed on an ongoing basis from numerous sources within the CDN environment. Reports provide historical and current information which can help enable operators to tailor content caching and delivery as well as empowering them to make informed business decisions.

Analytics also feed billing systems across multiple revenue types. Designated billing information can be generated and delivered to Content Providers and Service Providers.

Monitoring and Availability

The UDN System uses persistent connections, intelligent content management, and both multi-site and multi-server database redundancy to provide additional layers of protection for system operation. UDN continuously and systematically monitors system and server health and availability.

Additional protection features on-the-fly failover, and can include load balancing and clustering where additional capabilities in redundancy and fault tolerance are required. The UDN system is designed to accommodate flash events where a surge due to an event causes a dramatic increase in system loads, which might ordinarily strain a CDN system. Built-in congestion and overflow handling capabilities prevent bottlenecks and ensure continuous content delivery.

UDN Core Cache

The Core Cache is a dynamically optimized, geographically distributed, extensible caching platform. It is the primary component of the UDN Service.

Universal Cache Technology

Universal Cache technology enables a highly scalable Content Delivery Network (CDN) that efficiently delivers both its own management content as well as OTT services from a common caching infrastructure. The front end of this system stores the metadata of published assets and interfaces with a storage system that hosts these assets. In addition, media upload, download, and processing, is performed by a system that communicates job processing and status information with external asset management systems.

Global and Local Load Balancing

UDN's global and local load balancing system determines the fastest and closest location from which to serve content to consumers. Continuous testing of performance and latency ensures optimized content delivery. Policy-driven routing decisions are based on geography, network and server load, and business rules. Load balancing is performed globally, at the UDN Core, and locally, at Service Provider sites. The goal is to match Content Providers' needs to the CDN's needs while ensuring high availability, high performance, and low cost.

Customer-Controlled Caching

Cache management via the UDN Portal enables content management personnel to specify policies for content caching and purge/invalidate content once it is no longer available to users. Security system multi-tenancy ensures that content generated by different Content Providers can only be accessed by its owner.

UDN Benefits

On top of the delivery and management system technology, UDN serves a central contracting role for global content delivery with Content Provider and Service Provider partners worldwide. Collaboration between Ericsson, Content Providers, and Service Providers increase qualify of service while decreasing delivery cost.

UDN's secure multi-tenant architecture provides a hierarchy to support different roles and permissions, enabling data security at all levels for secure visibility by Content Providers and Service Providers, and their subsidiaries, resellers, and partners.

For Content Providers, UDN provides the best quality of service for the lowest cost. Detailed data on end-user access and consumption patterns provide detailed, customized performance reports. With UDN, Ericsson removes the need to manage separate contracts with dozens of Service Providers, providing a centralized contracting organization with a global reach.

For Service Providers, UDN enables strategic placement of core and edge servers to increase capacity and lower delivery costs. In addition, Service Providers can use the UDN Portal to control how content is delivered through their network, and optimize their content delivery profits. Performance data from the content delivery platform is gathered and stored for on-demand analytics that provide dynamic, detailed information on end user access and consumption patterns.

Chapter 2
Getting Started with the Admin Portal

The UDN Administrator Portal is a Graphical User Interface (GUI) web application that serves as the management application for UDN administration, configuration, and monitoring.

This chapter introduces you to the Portal, its main features, and how to use it.

This chapter contains the following sections:

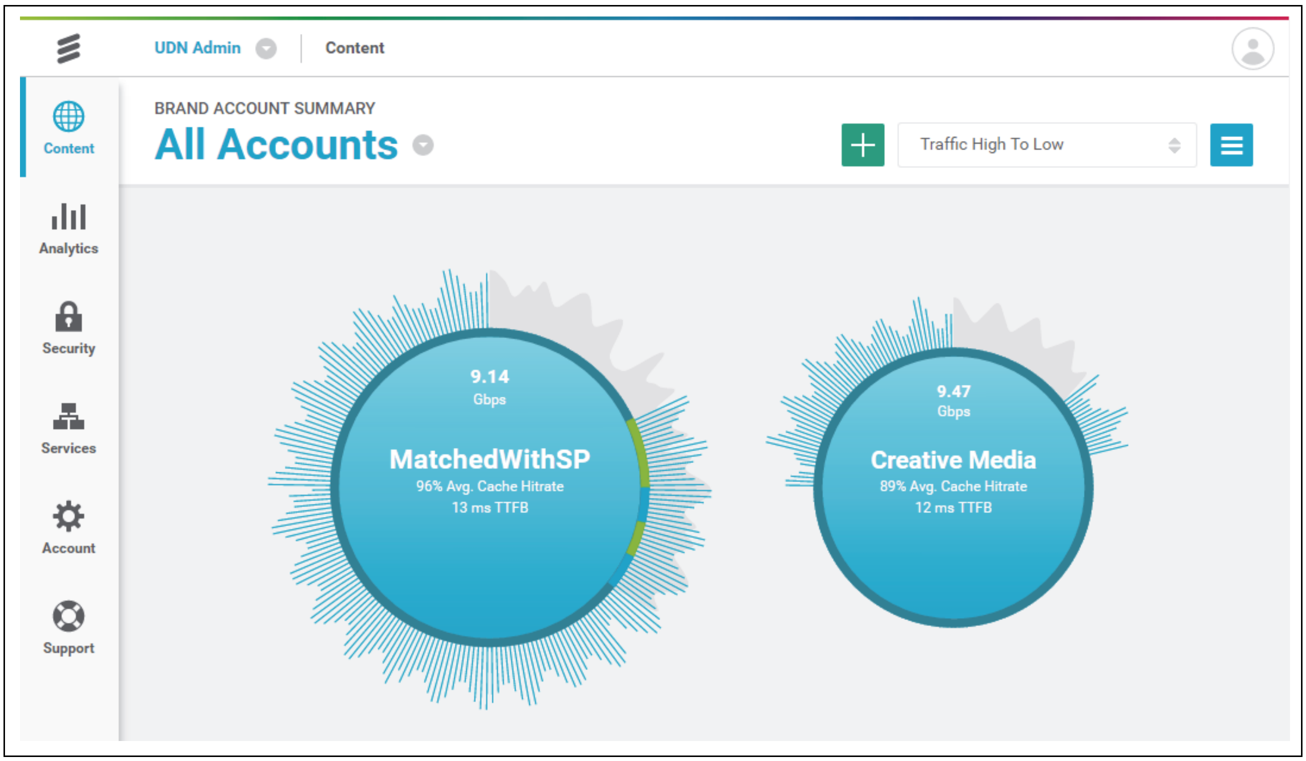
- "Accessing the Portal"
- "Exploring the Portal Interface"
- "Exploring Starbursts"
- "Navigating Between Accounts, Groups, and Properties"
- "Changing your User Information or Password"

Accessing the Portal

The Portal is a web-based interface that enables you to view and manage settings associated with UDN Services.

1. Open the browser of your choice. The following browsers are supported for Portal access at this time:
   - Chrome Version 48 or later
   - Internet Explore Version 11 or later
   - Safari Version 9 or later
   - Firefox Version 45 or later
2. To access the Portal, navigate to:
   `https://portal.ericssonudn.com`
3. To log in to the Portal, enter your username and password.
4. The main window of the UDN Administrator Portal displays (Figure 2-1).

Figure 2-1: Administrator Portal Main Window



Exploring the Portal Interface

When you log into the Portal for the first time, you will be presented with a visual representation of UDN traffic in the form of a Starburst. The Starburst feature is used to represent information associated with an entity, whether that entity is an Account (the highest level managed entity), a Group, or a Property (the lowest level managed entity).

To explore the Portal interface:

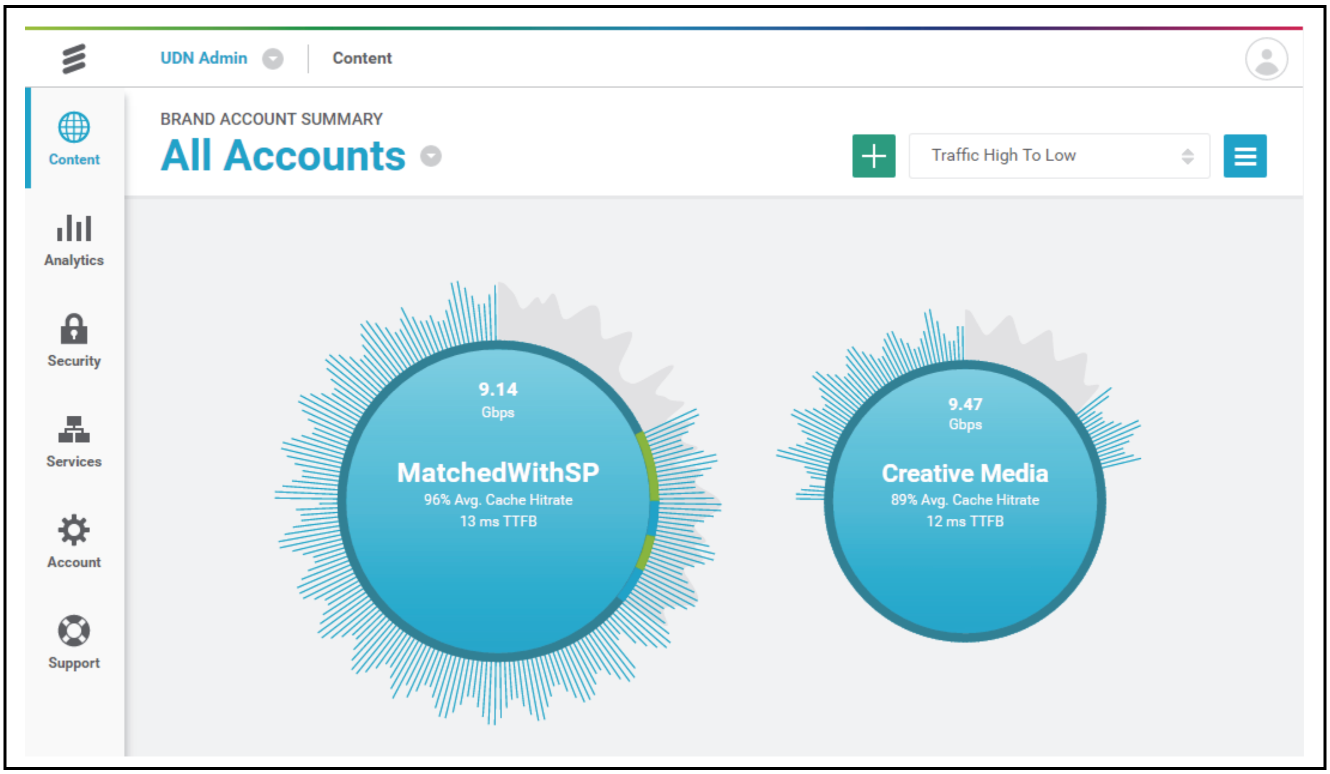
1. In the browser of your choice, navigate to:

   `https://portal.ericssonudn.com`

2. Log into the Portal with your username and password.
3. The default landing page is the “Starburst” view (Figure 2-2). In this view, each defined entity is represented by a circular Starburst.

   When you first access the Portal, the view displays all accounts.

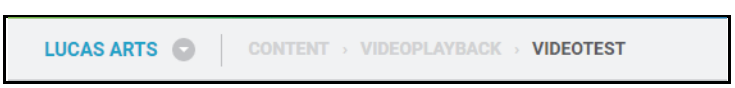
Figure 2-2: Account Summary: Starburst View



4. At the top left corner is an icon that will bring you to highest level view.

   To the right of that is a drop-down selector which enables you to choose different entities to view.

   To the right of the selector, you will find a breadcrumb trail of clickable links.



Note that this breadcrumb path displays the direct path from the top-level Accounts page to the current item you are viewing, rather than the path you followed to get to the current view. The links that comprise this path enable you to quickly move up the navigation hierarchy to a higher level page.

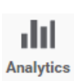
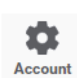
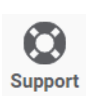
5. At the upper right is a User avatar icon. Click here to access a panel that displays user-specific settings including the company and the role associated with this user. You can also specify the UI Theme you want to view (Ericsson Light Theme and Ericsson Dark Theme), based on your preference.

   Note that the User Role specifies permissions for viewing and modifying various Portal configuration settings. Different roles are granted permission to view different features in the Portal. For more information, see the section titled "Understanding User Roles and Permissions".

6. Down the left side of the screen, you will view a number of icons you can click to access the main features of the Portal. These icons are described in Table 2-1.

   Note that clicking any icon will bring you to a context-specific page associated with the icon's action. For example, if you are viewing a Group, clicking the Analytics icon will display reports for the traffic data associated with that Group.

Table 2-1: Navigation Icons

Icon	Name	Use
	Home	From any view, clicking the Home icon brings you to the highest level Portal page.
	Content	Clicking the Content icon brings you to the Content Summary page which displays information for entities associated with Content Providers.
	Analytics	Clicking the Analytics icon brings you to the Analytics page where you can view charts and generate reports. For more information on generating reports, see Chapter 3, "Generating Reports".
	Security	The Security feature enables you to load SSL certificates.
	Account	Clicking the Account icon brings you to the Account Management page where you can view and manage Groups and Users. For more information, see Chapter 6, "Working with Groups" and Chapter 5, "Working with Users".
	Support	Clicking the Support icon brings you to a page where you can file and track support tickets, access support tools, and view documentation. For more information, see Chapter 10, "Accessing Support Resources".

NOTE

The Services icon features will be available in a future release.

The main (working) area of each screen displays information in the form of Starbursts. Each Starburst represents a managed entity in the form of an Account, a Group, or a Property.

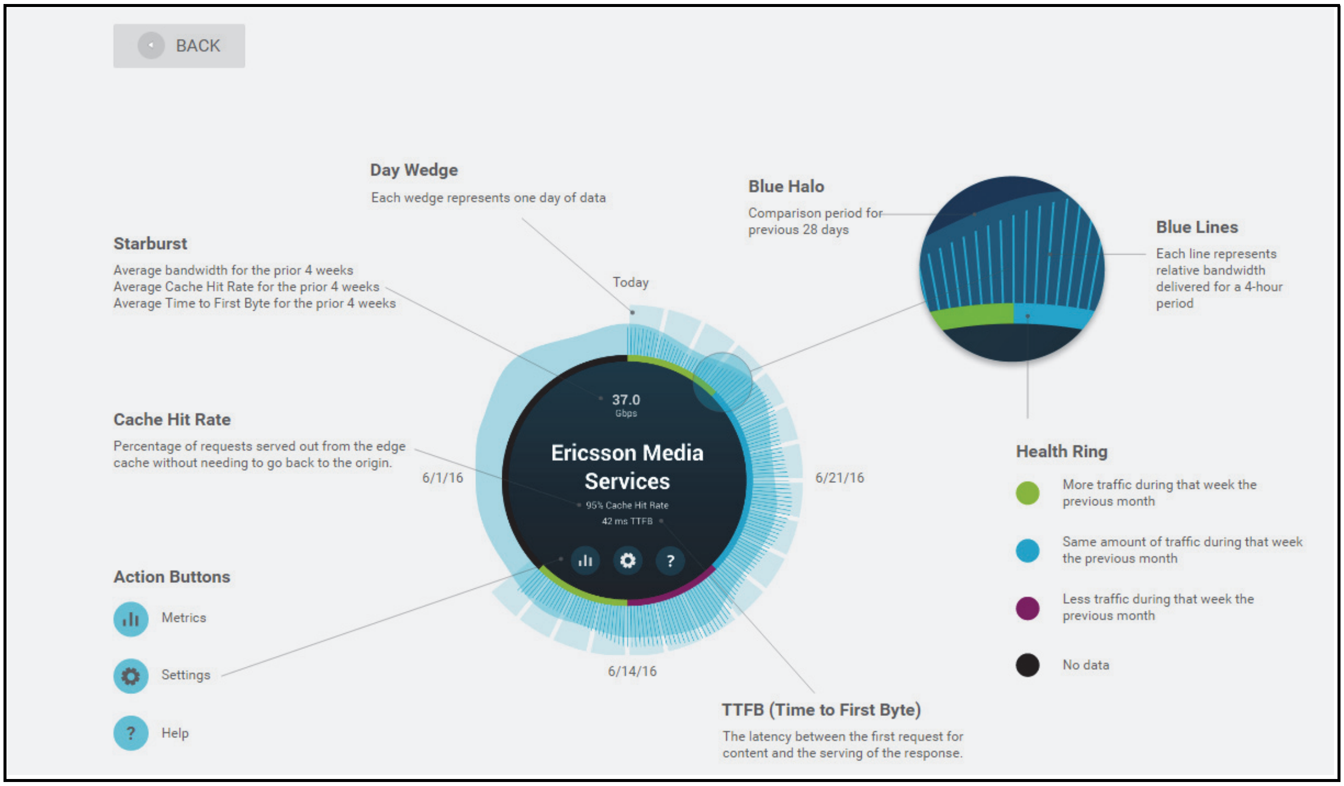
See "Exploring Starbursts" for a detailed explanation of Starbursts.

Exploring Starbursts

The Portal is used to manage and generate reports on three different levels of entity: Accounts, Groups, and Properties. Each Account contains one or more Groups, and each Group contains one or more Properties. Analytics information for an entity is an aggregation of the data for all entities below it.

Within the Portal, each entity is graphically represented as a Starburst. You can view a Help page in the Portal (Figure 2-3) by hovering over any Starburst and clicking the "?" icon that displays in its center.

Figure 2-3: Starburst Help



Following is an overview of the rich collection of information that the Starburst data visualization provides.

Viewing Data Over Time

The Starburst represents the last 28 days of traffic activity for an Account, Group, or Property.

If you picture each Starburst (all Starbursts have the same layout regardless of whether they represent an Account, Group, or Property) as the circular face of a clock:

- The 12:00 position at the top of the Starburst represents today.
- The quarter-circle section between 12:00 and 3:00 represents the past week (the past 7 days).
- The quarter-circle section between 3:00 and 6:00 represents 2 weeks ago (the time between 14 days ago and 7 days ago).
- The quarter-circle section between 6:00 and 9:00 represents 3 weeks ago (the time between 21 days ago and 14 days ago).

- The quarter-circle section between 9:00 and 12:00 represents 4 weeks ago (the time between 28 days ago and 21 days ago).

You will notice a solid ring, called the Health ring, around the inner edge of each Starburst. For each week of traffic in the outer “halo”, you will find the color of the inner ring represents how that week's traffic compares to traffic during the same time period four weeks earlier. When you hover over any point on the Health ring, a color key displays, enabling you to easily interpret the colored segments of the ring.

There is a halo of lines, or rays, radiating out from the edge of each Starburst. Each line represents the relative bandwidth delivered over a 4-hour period. Longer lines represent higher levels of traffic and shorter lines represent lower levels over the time period. You will typically notice a natural variation in bandwidth use over the course of a day (represented by 6 adjacent lines), but can also note other data trends as they appear.

As you mouse over the halo, the hover text shows the date and specific metrics for a particular day. For Property Starbursts, the rays for each day have a wedge, or slice, highlighting the day's boundaries.

Clicking on a particular wedge brings up the Property summary showing a bandwidth graph for the date of the wedge you selected.

Key Performance Indicators

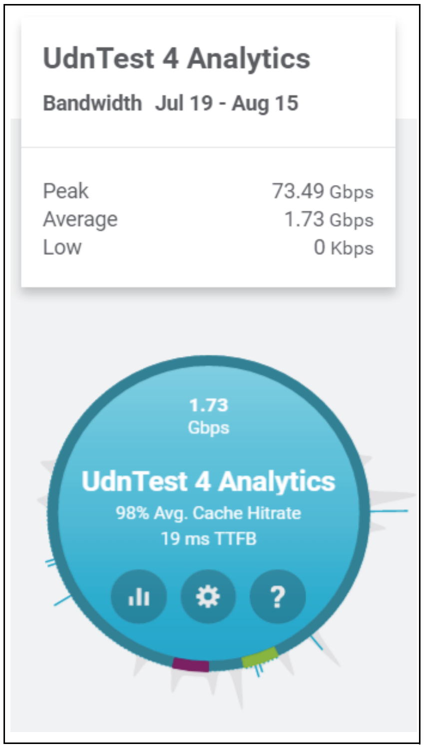
When the Starburst for an entity (Account, Group, or Property) displays, key performance indicators display automatically in the middle of the Starburst. In addition to the name of the entity, information averaged over the past month displays, including:

- The average bandwidth (in Gbps)
- The average cache hit rate for the past 28 days (as a percentage)
- The time to first byte (TTFB) in milliseconds for the past 28 days

A Starburst display provides access to additional information when you hover over different areas:

- When you hover over any point in the center of the Starburst, you can view the Peak, Average, and Low bandwidth for the most recent 28-day period (Figure 2-4).
- When you hover over any area on the solid-color health ring at the perimeter of the circle, a color key displays to assist you in interpreting the ring colors displayed.
- When you hover over any section on the halo (rays) outside the center circle, you can view the Peak, Average, and Low bandwidth for the date represented by that halo section.

Figure 2-4: Key Performance Indicators Display



Note that all metrics for an individual Starburst are an aggregate of any entities beneath that Starburst:

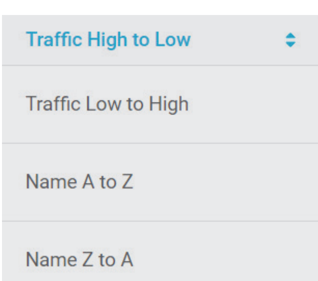
- An Account Starburst displays an aggregate of the data for all of the Groups that belong to that Account.
- A Group Starburst displays an aggregate of the data for all of the Properties belonging to that Group.
- A Property is the smallest entity available on the Portal.

Sorting Displayed Entities

At the top of any page, to the right of the title of the entity you are viewing (Account, Group, or Property), there is a drop-down which enables you to sort the information you are displaying.

You can sort based on traffic (Traffic High to Low or Traffic Low to High), or you can sort alphabetically (Name A to Z or Name Z to A).

Figure 2-5: Sorting Displayed Entities



Displaying the Table View

As an alternative to the Starburst view, you can choose to display the same information as a series of rows in a table.

To display the Table View, click the Table View icon at the top right of the page: 

To return to the Starburst view at any time, click the Starburst View icon: 

Sample rows from the Table View are shown in Figure 2-6.

Figure 2-6: Entity Table View

The Table View displays the following information for a rolling 4-week period:

- The name of the entity (Account, Group, or Property).
- The last time the entity was modified, and the user who modified it.
- A chart indicating the daily bit rate over the past 28 days. Note that you can hover over the chart for detailed information.
- The Peak, Lowest, and Average bit rate for traffic over the past 28 days.
- The average cache hit rate for the past 28- days.
- The average Time to First Byte (TTFB), in milliseconds, for the past 28 days.

The Table View also provides the following icons:

- To configure settings for the displayed entity, click the Configure icon. 
- To view analytics for the displayed entity, click the Analytics icon. 

Navigating Between Accounts, Groups, and Properties

There are several ways you can navigate between entities (Accounts, Groups and Properties) in the Portal: Breadcrumb navigation, Starburst navigation, and Drop-down navigation.

Starburst Navigation

To navigate to a lower-level entity in the Portal, click on a Starburst. Clicking on a Starburst brings you to a display that shows a Starburst for each of the entities it contains:

- Clicking on an Account Starburst brings you to a page that displays a Starburst for each of the Groups belonging to that Account.
- Clicking on a Group Starburst brings you to a page that displays a Starburst for each of the Properties belonging to that Group.

Breadcrumb Navigation

To navigate to a higher-level entity in the Portal hierarchy, you can traverse back up the path you used to navigate to your current view by clicking any item in the breadcrumb trail of links at the top of the page.

Figure 2-7: Breadcrumb Navigation

You can navigate to the highest level view by clicking the Ericsson logo in the upper left corner.

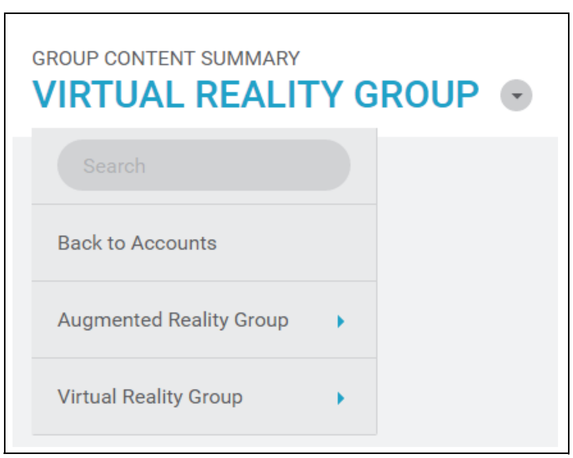
Drop-down Navigation

The Portal also provides a drop-down selector that enables you to navigate either one level up from your current location, or to choose from other entities at the same level as the one you are currently viewing (Figure 2-8).

For example, if you are viewing a Group, the drop-down selector at the top of the page enables you to navigate up one level to view Accounts, or to choose to view a different Group belonging to the same Account as the Group you are viewing.

In addition, you can search for an entity using the Search field.

Figure 2-8: Drop-down Navigation Menu



Changing your User Information or Password

In order to access the portal, you must have a User account. In order to create this account, information about you has been entered into the UDN Service by an administrator. The Portal enables you to modify this information.

To modify your user profile settings:

1. Click the user avatar at the upper right of the page. The User Profile panel displays.
2. Choose Edit Profile.
3. Enter your name and your contact information.
4. If desired, you may change your password.

NOTE

If you change your password, you will need to log back into the system.

Chapter 3
Generating Reports

The Analytics feature of the Portal enables you to display rich information about UDN Service traffic.

This chapter contains the following sections:

- "Report Overview"
- "Viewing Reports"
- "Traffic Overview Report"
- "Cache Hit Rate Report"
- "Unique Visitors Report"
- "Service Provider On / Off Net Report"
- "Service Provider Contribution Report"
- "File Error Report"
- "URL Report"

Report Overview

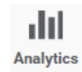
Note that when you click the Analytics icon anywhere it appears on the Portal, the Portal will display reporting information associated with the currently selected entity (Account, Group, or Property).

For example:

- If you click the Analytics icon inside a Property Starburst, the reporting information will reflect the data available for that Property.
- If you are viewing a Group and click the Analytics icon on the left navigation bar, the reporting information will reflect the data available for that Group.
- It is important to understand that the data displayed is the aggregated sum of all available data for all Properties belonging to the selected entity. So:
  - Reporting for a Property displays all data for that specific Property.
  - Reporting for a Group displays a total of all data for the Properties belonging to that Group.
  - Reporting for an Account displays a total of all data for all Properties belonging to all Groups within that Account.

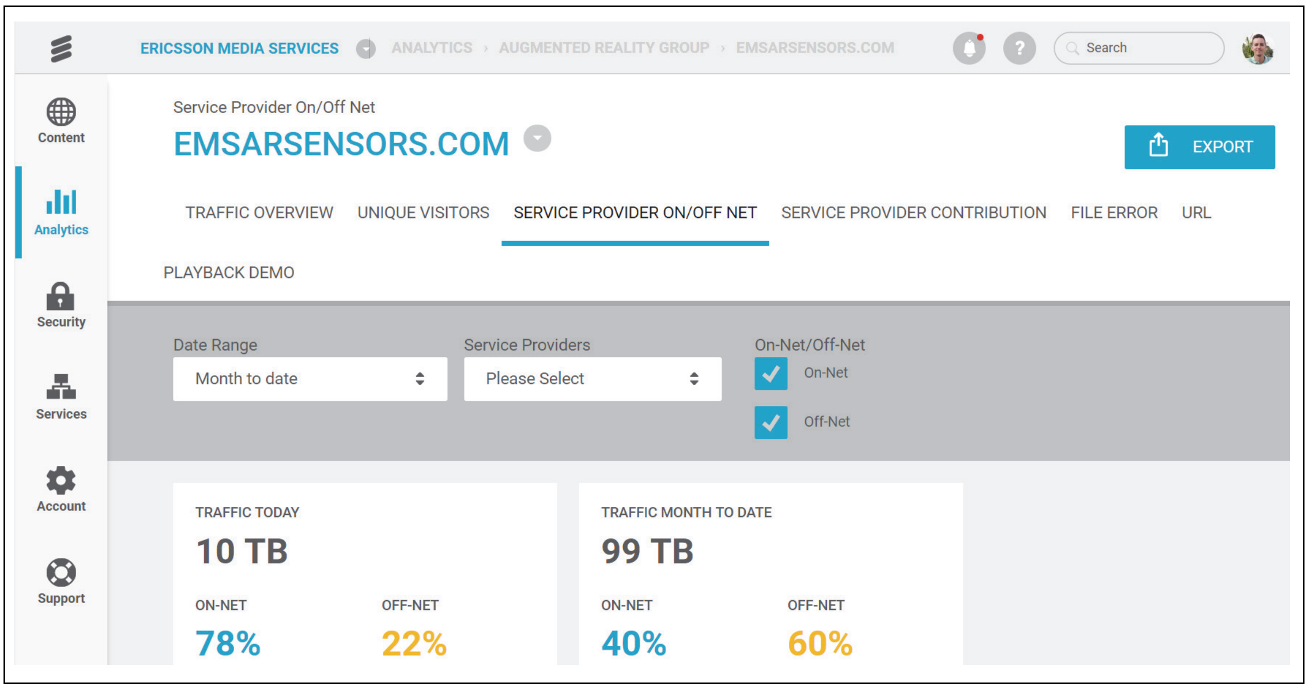
Viewing Reports

To view a report:

1. Navigate to the entity (Account, Group, or Property) whose data you want to view.
2. Do one of the following:
   - Click the Analytics icon on the left navigation bar. 
   - Click the Analytics icon inside any Starburst. Note that you need to hover the cursor in the center of the Starburst in order for this icon to display.

   A Report page displays for the entity you selected. You can select different types of reports by choosing the tabs that display above the report. Figure 3-1 shows an example of the Service Provider On/Off Net Report.

Figure 3-1: Service Provider On/Off Net Report



1. By default, each report type shows data for the Month to Date.

   You can modify this setting by selecting from a predefined list of options (Last Month, Last Week, and so forth), or you can specify a Custom Date Range.

   When you specify a date range that spans multiple days, the data displays in daily increments. When you specify a single day, the data displays in hourly increments.

   NOTE

   Each report type offers settings that allow you to generate more customized reports. Detailed information about each report type is available in the following sections.

2. When information is displayed in table form, you will see a small triangle appear next to some column headings. You can sort the table based on the column content by clicking these headings.

3. You can Export a displayed report to a CSV (comma separated variable) file format by clicking the Export button. The resulting csv file name includes the report type and the entity (Account, Group, or Property) for which data is included.

    NOTE

    Not all report types support the export function at this time. Additional support for exporting reports will be added in a future release.

4. You can select a different Entity from the selector at the top of the page.

    When you do so, if the report is availability for the Entity type (Account, Group, or Property), the same report type will display for that Entity. If it is not available, a report available for that Entity will display.

Traffic Overview Report

The Traffic Overview Report shows detailed bandwidth usage information for the Account, Group, or Property selected. This report summarizes information by service type for a given date range.

Scope

This report is available to users who have been assigned either the UDN_Admin, CP_Admin, or CP_User role. You can generate this type of report for an Account, Group, or Property.

Settings

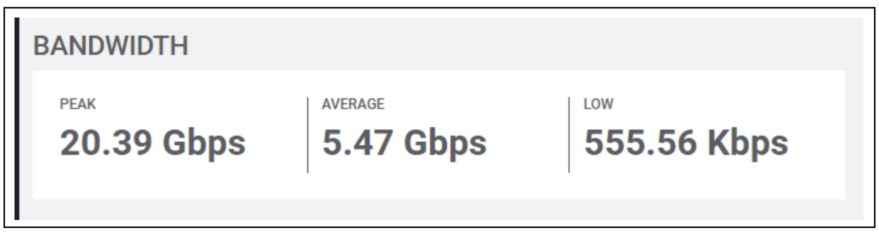
You can specify the following settings for this report:

- Date Range
- Traffic type: select HTTP traffic, HTTPS traffic, or both.
- Data type: select Bandwidth or Requests.

Content

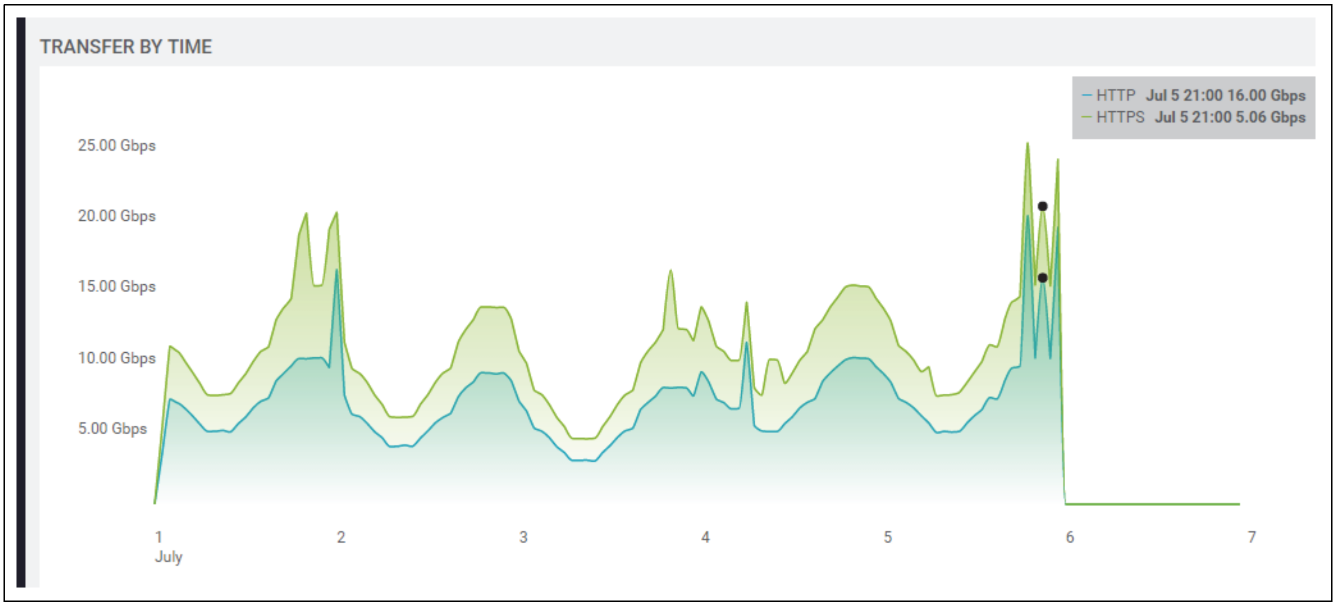
When viewing the Traffic Overview report, the Bandwidth area at the top (Figure 3-2) displays Peak, Average, and Low bandwidth values over the total date range. If you select Requests, Peak, Average, and Low values will display.

Figure 3-2: Traffic Overview Report: Bandwidth Area



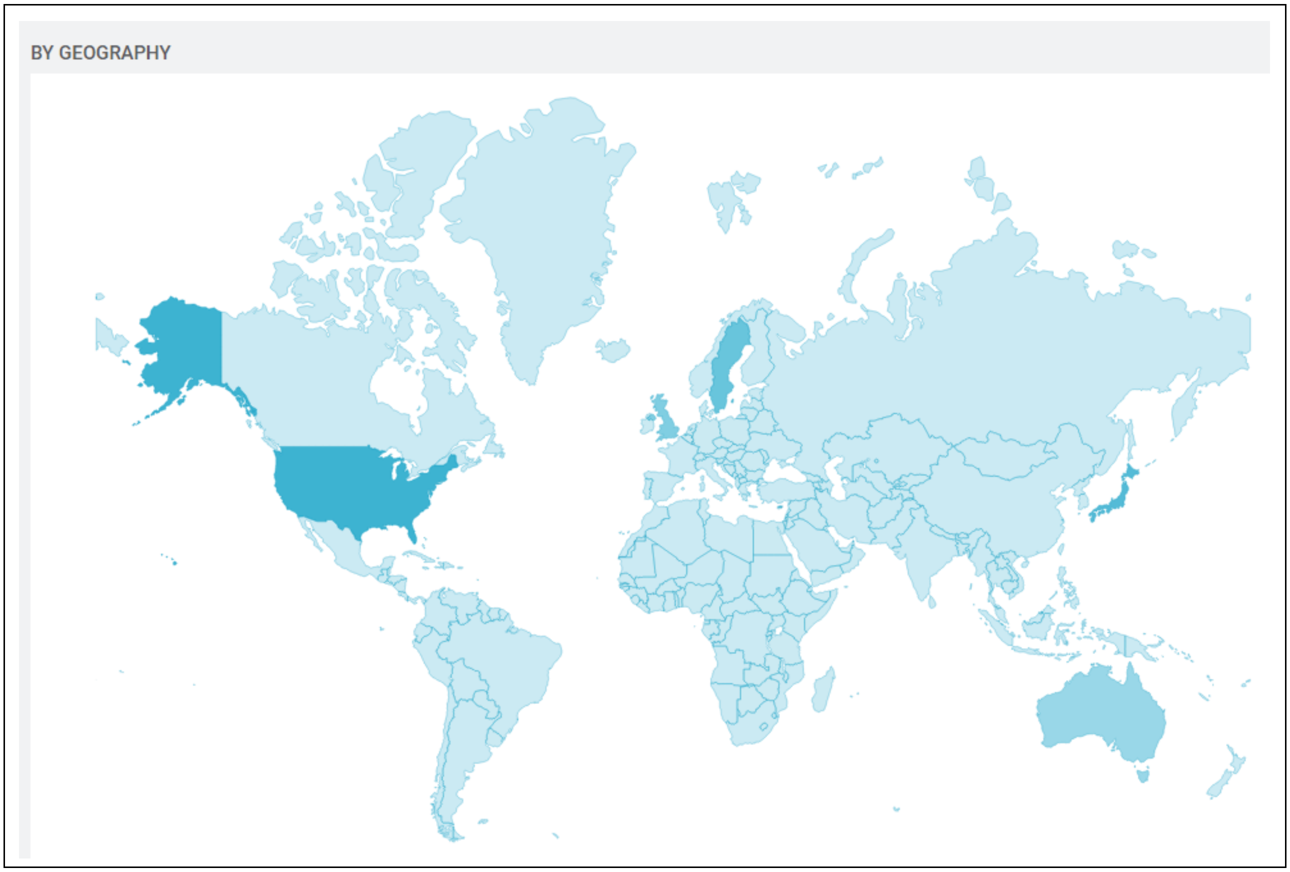
The Transfer by Time area (Figure 3-3) displays a graph showing the volume of data transferred over the dates specified.

Figure 3-3: Traffic Overview Report: Transfer by Time Area



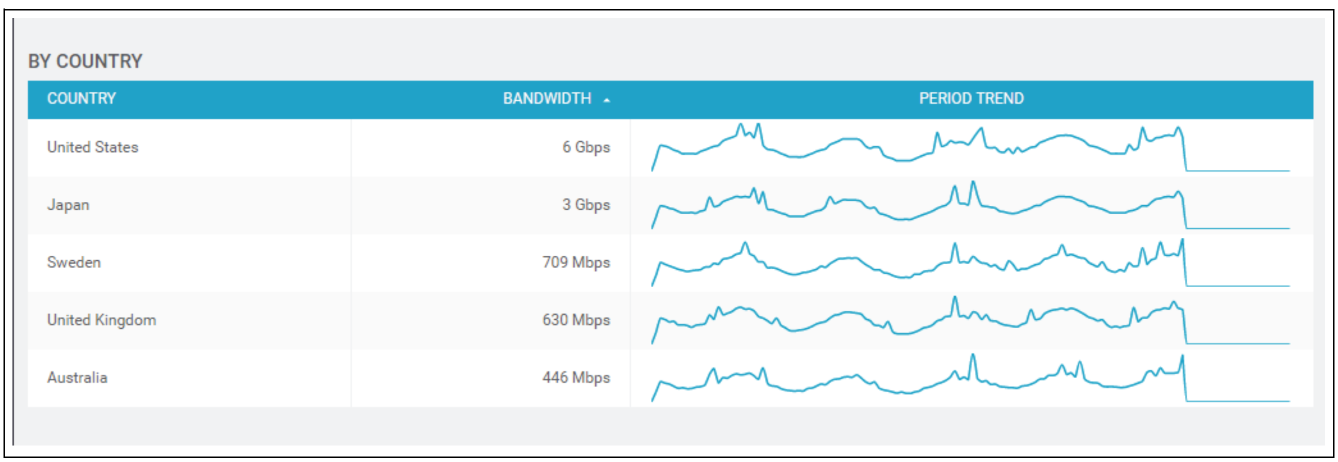
The By Geography area (Figure 3-4) displays traffic information in the form of a world map. Darker areas indicate more traffic. Hovering over a specific country displays the total traffic in that country over the specified data range.

Figure 3-4: Traffic Overview Report: By Geography Area



The By Country area at the bottom of the report (Figure 3-5) shows bandwidth volume information and a chart line indicating traffic trends for the specified time period for the top five countries.

Figure 3-5: Traffic Overview Report: By Country Area



BY COUNTRY

COUNTRY	BANDWIDTH ▲	PERIOD TREND
United States	6 Gbps	
Japan	3 Gbps	
Sweden	709 Mbps	
United Kingdom	630 Mbps	
Australia	446 Mbps	

Cache Hit Rate Report

The Cache Hit Report shows the percentage of traffic served from cache for each day over a specified date range.

Scope

This report is available to users who have been assigned either the UDN_Admin, CP_Admin, or CP_User role. You can generate this type of report for an Account, Group, or Property.

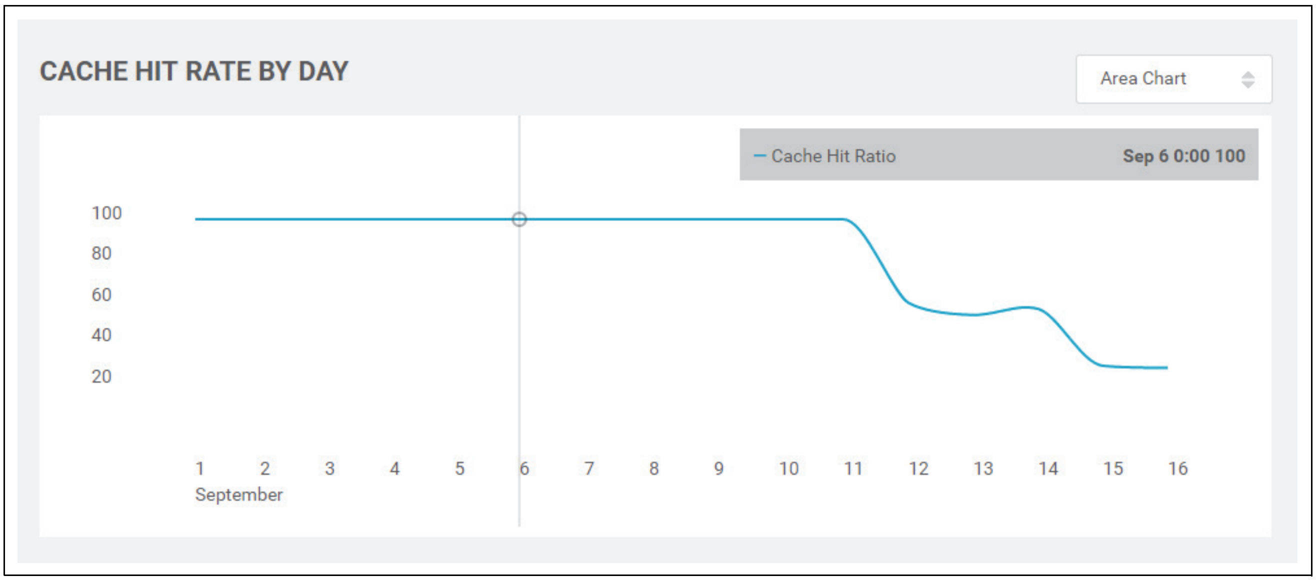
Settings

You can specify the date range for this report.

Content

When viewing the Cache Hit Overview report, the chart at the top of the report (Figure 3-6) displays the cache hit rate as a percentage for each day in the specified date range. Note that you can select whether you want the data displayed in the form of an Area Chart or a Column Chart.

Figure 3-6: Cache Hit Rate Report: Chart Area



The bottom of the Cache Hit Rate report displays the same information in table form ().

Figure 3-7: Cache Hit Rate Report: Table Area

DATE	CACHE HIT RATE (%)
09/06/2016	100%
09/05/2016	100%
09/04/2016	100%
09/03/2016	100%
09/02/2016	100%
09/01/2016	100%

Unique Visitors Report

The Unique Visitors report shows the number of unique visitors to a particular URL. A Unique Visitor is defined as a visitor that has consumed content for a given Property from a given device one or more times. The Tracking is done via a UDN cookie. For those visitors that disable or disallow cookies the IP address and User Agent are used as a proxy.

Scope

This report is available to users who have been assigned either the UDN_Admin, CP_Admin, or CP_User role. You can generate this type of report for an Account, Group, or Property.

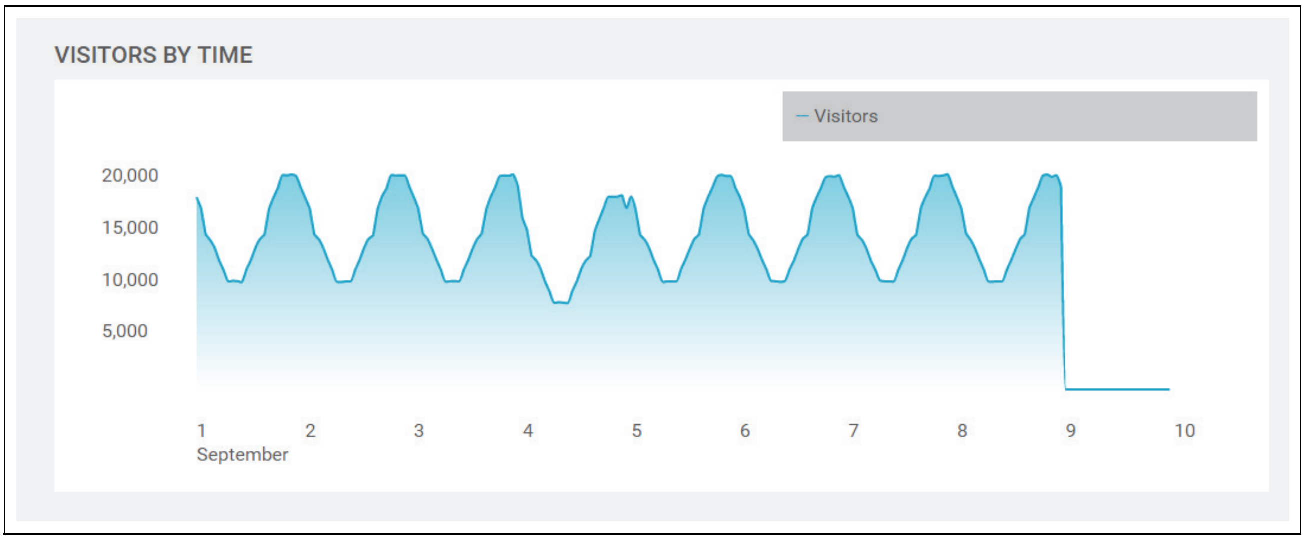
Settings

This report enables you to modify the Date Range for the data displayed.

Content

When viewing the Unique Visitors report, the Visitors by Time area at the top (Figure 3-8) displays the number of unique visitors over the specified time period.

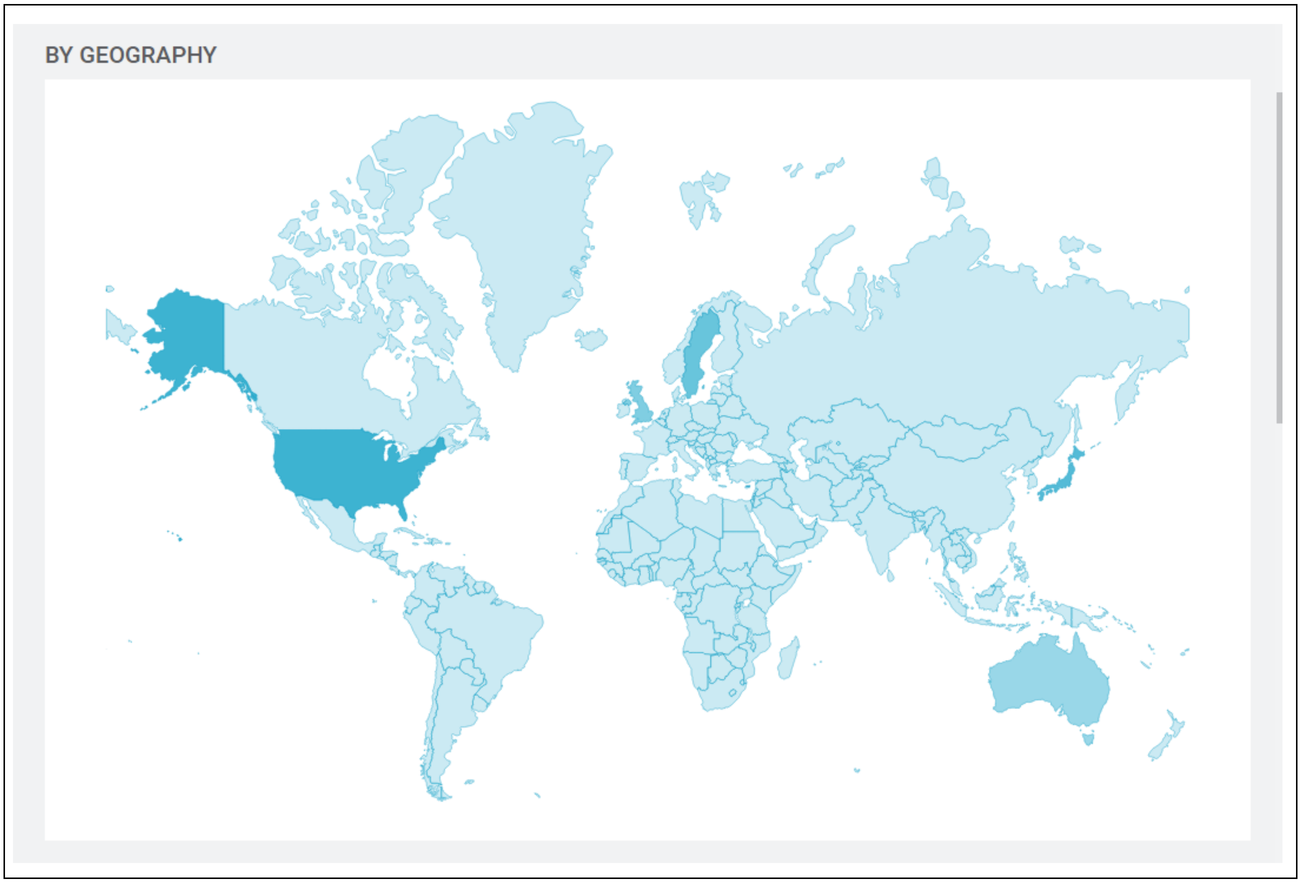
Figure 3-8: Unique Visitors Report: Visitors by Time Area



The By Geography area displays visitor information in the form of a world map (Figure 3-9). Hovering over a specific country displays the total number of unique visitors for that country over the specified data range. Darker areas indicate more traffic.

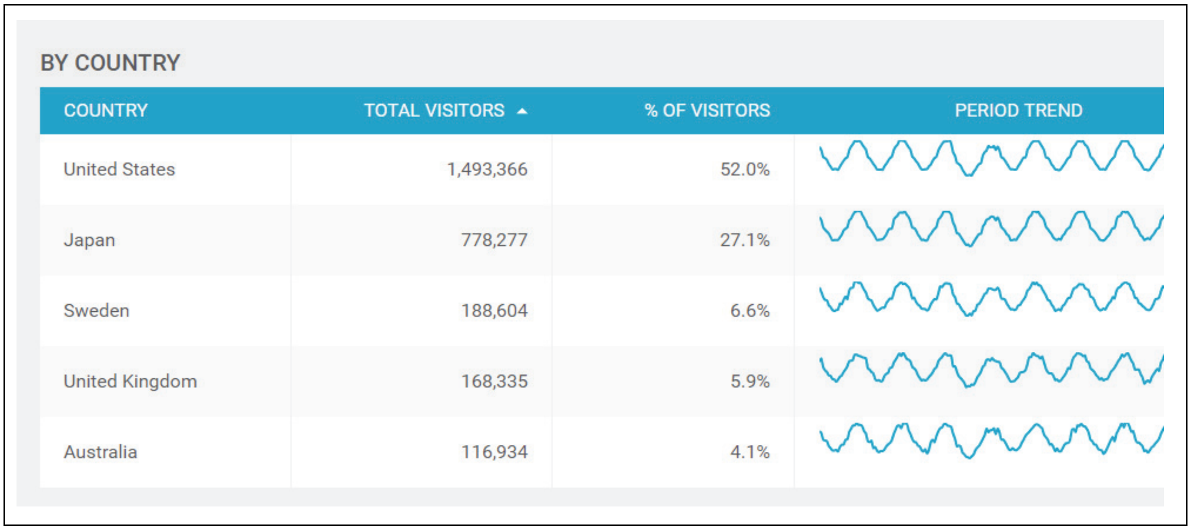
Note that the Unique Visitor geographical breakdown is ranking countries by the number of unique visitors for that country. This is different than the Traffic Overview geographical breakdown which ranks the countries by the amount of traffic consumed, so it is possible a country that has the highest number of unique visitors is one of the lower countries relative to traffic consumption, and conversely a country with a low number of unique visitors may be consuming the most traffic.

Figure 3-9: Unique Visitors Report: Visitors by Geography Area



The next section displays unique visitor information By Country (Figure 3-10). This section displays the top five countries by volume, the total number of unique visitors in that country over the date range, the percent of visitors in that country, a period trend chart, and the percent change from the start of the date range to the end. You can hover over any portion of the Period Trend charts to display information for a specific date.

Figure 3-10: Unique Visitors Report: Visitors by Country

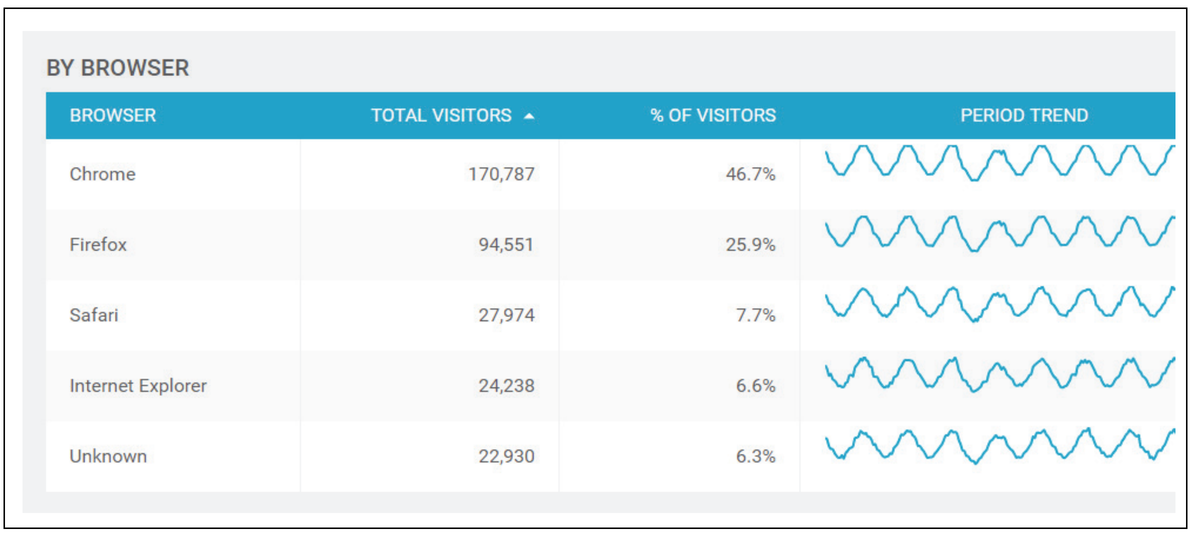


BY COUNTRY

COUNTRY	TOTAL VISITORS ▲	% OF VISITORS	PERIOD TREND
United States	1,493,366	52.0%	
Japan	778,277	27.1%	
Sweden	188,604	6.6%	
United Kingdom	168,335	5.9%	
Australia	116,934	4.1%	

The next section displays unique visitor information By Browser (Figure 3-11). This section displays the top five browsers by volume, the total number of unique visitors using each browser over the date range, the percent of visitors with that browser, a period trend chart, and the percent change from the start of the date range to the end. You can hover over any portion of the Period Trend charts to display information for a specific date.

Figure 3-11: Unique Visitors Report: Visitors by Browser



BY BROWSER

BROWSER	TOTAL VISITORS ▲	% OF VISITORS	PERIOD TREND
Chrome	170,787	46.7%	
Firefox	94,551	25.9%	
Safari	27,974	7.7%	
Internet Explorer	24,238	6.6%	
Unknown	22,930	6.3%	

The next section displays unique visitor information By Operating System (Figure 3-12). The section displays the top five operating systems in use by unique visitors, the total number of unique visitors over the date range, the percent of visitors with that operating system, a period trend chart, and the percent change from the start of the date range to the end. You can hover over any portion of the Period Trend charts to display information for a specific date.

Figure 3-12: Unique Visitors Report: Visitors by Operating System

BY OPERATING SYSTEM

OPERATING SYSTEM	TOTAL VISITORS ▲	% OF VISITORS	PERIOD TREND
Windows	159,294	43.6%	
Mac OS X	109,253	29.9%	
Linux	55,133	15.1%	
Unknown	38,316	10.5%	
iOS	2,618	0.7%	

Service Provider On / Off Net Report

The Service Provider (SP) On/Off Net Report allows Service Provider partners to see how much traffic to their subscribers is being served from their network (On Net) or being served either from the UDN Edge or another UDN Partner Network (Off Net).

A request from a subscriber might be routed to either the UDN Edge or another Service Provider range for a variety of reasons including:

- A lack of server availability for the SP that owns the subscriber
- The SP network edge's inability to satisfy the request due to issues such as SSL delivery problems
- Advanced cache control requirements that cannot be properly identified by the SP network
- Network saturation/volume

Availability is determined based on the health or load of the SP Edge servers. If there are no healthy servers to route the request to, or if the load for the SP Edge Servers is too high, routing will bring this subscriber to the UDN Edge or another SP in order to obtain the content. SP Partners are given incentive to maintain enough capacity to minimize any Off Net routing because they get more revenue share for serving their subscribers directly.

Scope

This report is available to users who have been assigned either the UDN_Admin, SP_Admin, or SP_User role. You can generate this type of report for an Account, Group, or Property.

Settings

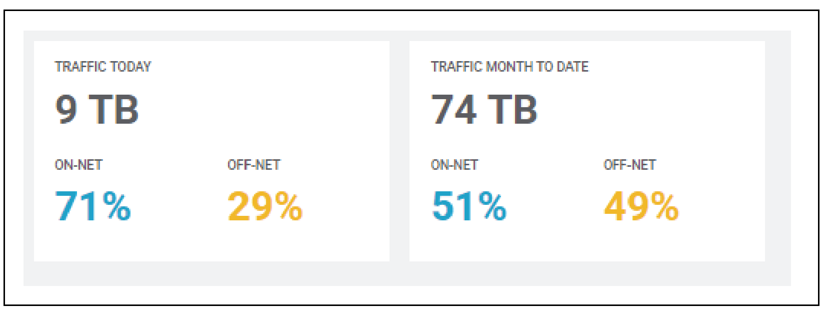
You can specify the following settings for this report:

- Date range
- Traffic type: select On-Net traffic, Off-Net traffic, or both

Content

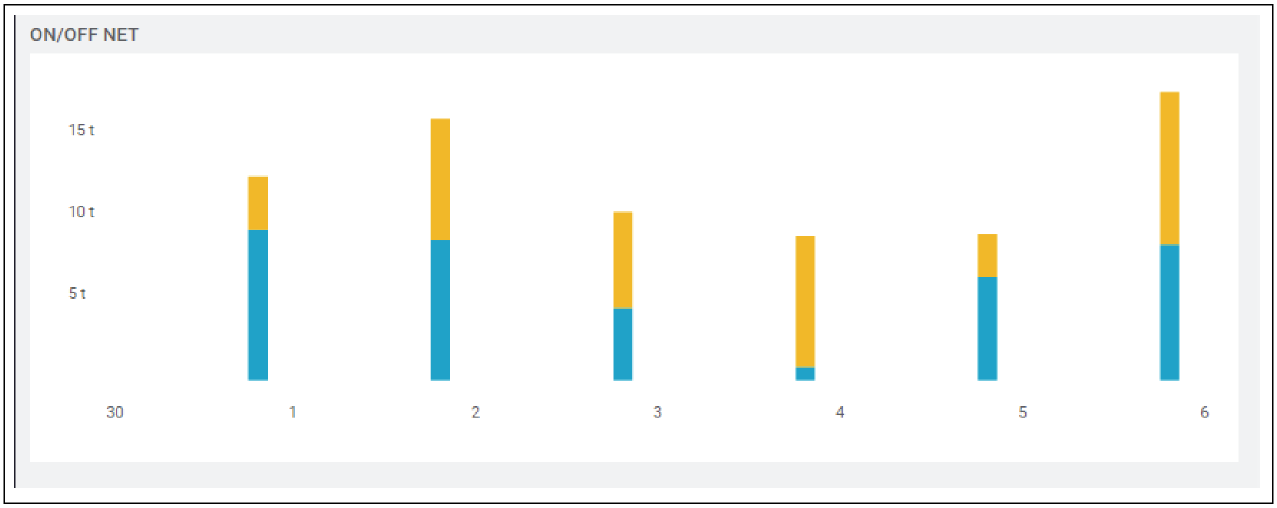
When viewing the SP On/Off Net report, the area at the top displays traffic information for both the current date and the specified date range (Figure 3-13).

Figure 3-13: SP On/Off Net Report: Traffic Overview



The next section of the report (Figure 3-14) shows the traffic volume both On and Off Net for each day in the range specified.

Figure 3-14: SP On/Off Net Report: Volume Chart



The last section of the report (Figure 3-15) displays a table with specific data for each date in the range specified.

Figure 3-15: SP On/Off Net Report: Data Table

DATE	ON NET (BYTES)	ON NET (%)	OFF NET (BYTES)	OFF NET (%)	TOTAL (BYTES)
07/05/2016	8 TB	47%	9 TB	53%	18 TB
07/04/2016	6 TB	70%	3 TB	30%	9 TB
07/03/2016	817 GB	9%	8 TB	91%	9 TB
07/02/2016	4 TB	43%	6 TB	57%	10 TB
07/01/2016	9 TB	54%	7 TB	46%	16 TB
06/30/2016	9 TB	74%	3 TB	26%	12 TB

Service Provider Contribution Report

The Service Provider Contribution Report provides Content Providers with detailed traffic information for each Service Provider (SP) that supported the content delivery of a particular Account, Group, and/or Property on behalf of that Content Provider. Information is broken down by geography.

Scope

This report is available to all users. You can generate this type of report for an Account, Group, or Property.

Settings

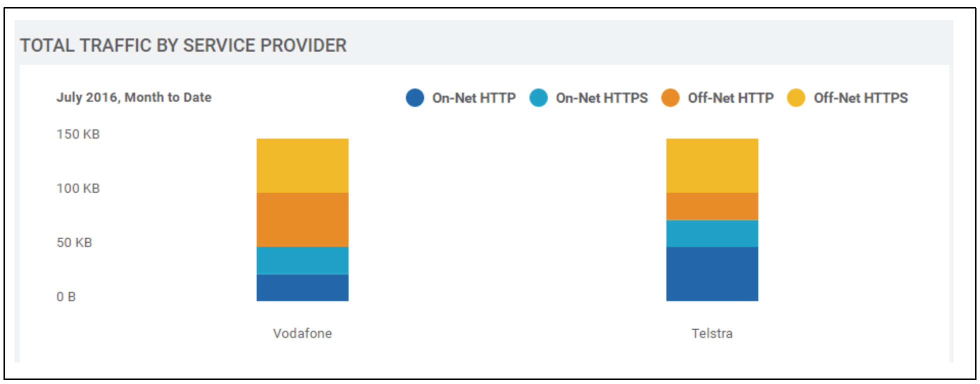
This report allows you to specify the following settings:

- Date range
- Service providers: select one or all
- Pops: select one or all
- Properties: select one or all
- Delivery type: select On-Net, Off-Net, or both
- Service type: select HTTP, HTTPS, or both.

Content

The top of the report (Figure 3-16) displays a chart that shows traffic volume per Service Provider for each traffic type (based on your settings).

Figure 3-16: Service Provider Contribution Report: Traffic Chart



The following section (Figure 3-17) provides the same information in table form.

Figure 3-17: Service Provider Contribution Report: Traffic Table

SERVICE PROVIDER	COUNTRY	TRAFFIC	% OF TRAFFIC
Vodafone	Germany	150 KB	35%
Telstra	Australia	150 KB	30%
Vodafone	France	150 KB	20%

File Error Report

The File Error Report shows requests for an asset that resulted in a 4xx or 5xx (error) response. The results are sorted and the top 15 assets are displayed.

Scope

This report is available to users who have been assigned either the UDN_Admin, CP_Admin, or CP_User role. You can only generate this type of report for a Property, not for a Group or an Account.

Settings

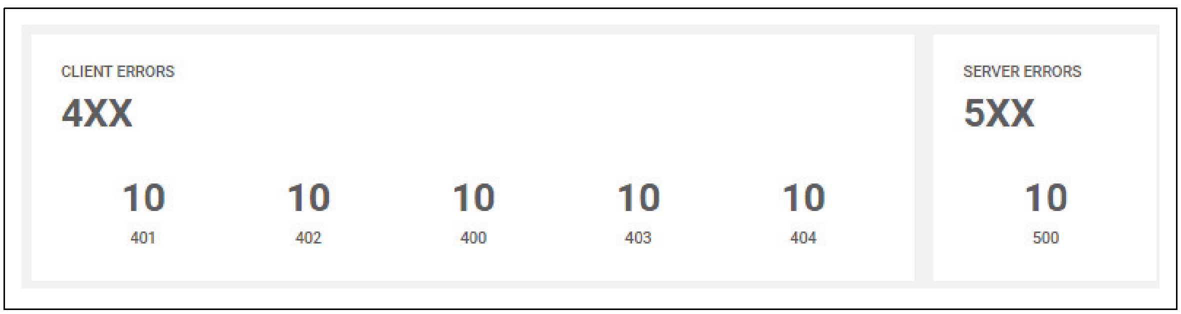
This report enables you to specify the following settings:

- Date range
- Service types: select HTTP, HTTPS, or both
- Status codes: select one, some, or all

Content

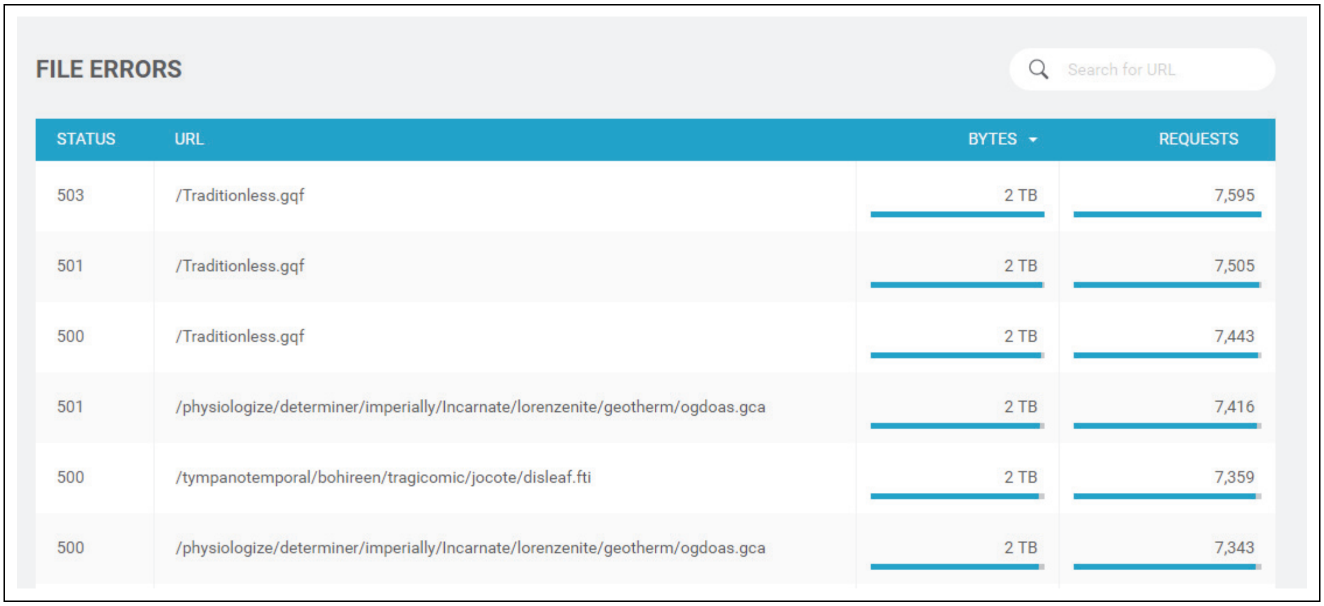
The top of the report (Figure 3-18) displays the number of Client Errors (listed by error type), and Server Errors for the dates specified.

Figure 3-18: File Error Report: Client Errors



The rest of the report (Figure 3-19) lists Byte and Request volumes for URLs associated with errors.

Figure 3-19: File Error Report: Byte and Request Volumes



FILE ERRORS

Search for URL

STATUS	URL	BYTES	REQUESTS
503	/Traditionless.gqf	2 TB	7,595
501	/Traditionless.gqf	2 TB	7,505
500	/Traditionless.gqf	2 TB	7,443
501	/physiologize/determiner/imperially/Incarnate/lorenzenite/geotherm/ogdoas.gca	2 TB	7,416
500	/tympanotemporal/bohireen/tragicomic/jocote/disleaf.fti	2 TB	7,359
500	/physiologize/determiner/imperially/Incarnate/lorenzenite/geotherm/ogdoas.gca	2 TB	7,343

URL Report

The URL Report shows all accelerated assets ranked by traffic volume (GB delivered) over the specified date range.

Scope

This report is available to users who have been assigned either the UDN_Admin, CP_Admin, or CP_User role. You can only generate this type of report for a Property, not for an Account or a Group.

Settings

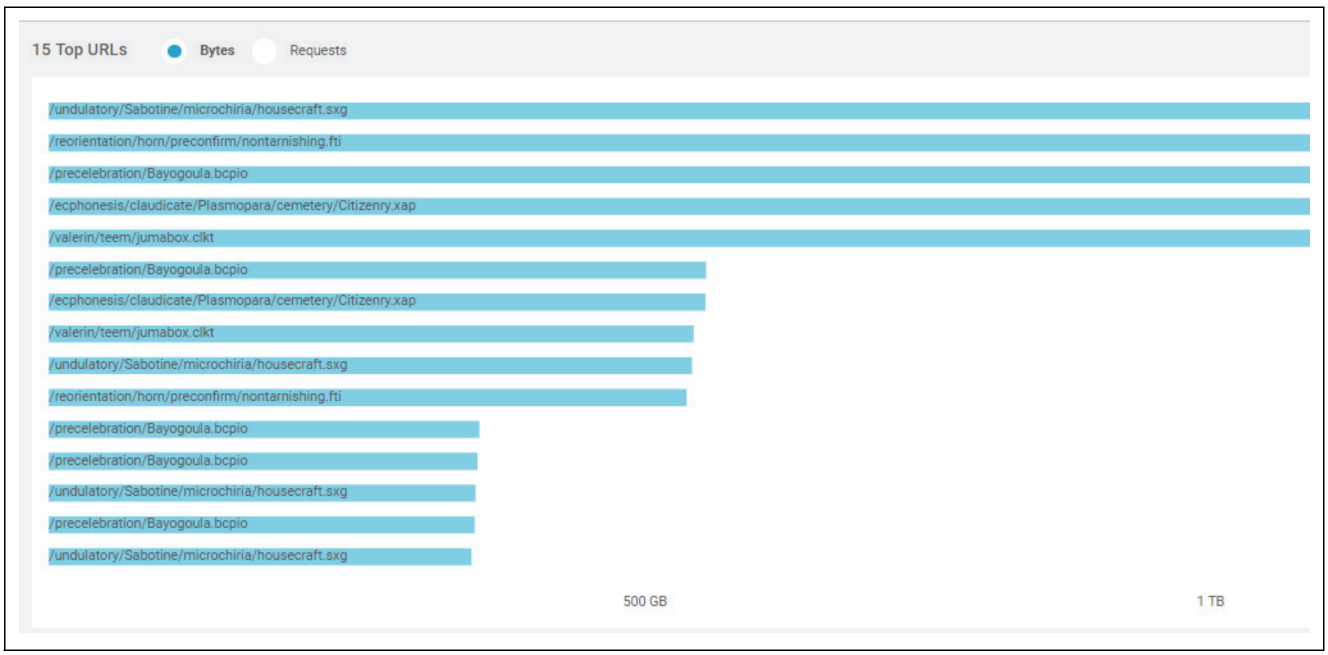
This report enables you to specify the following settings:

- Date range
- Service type: select HTTP, HTTPS, or both
- Status codes: select one, several, or all

Content

The top of the report (Figure 3-20) displays a chart that shows the relative volume of traffic associated with different URLs. You can choose whether to display data associated with Bytes or Requests.

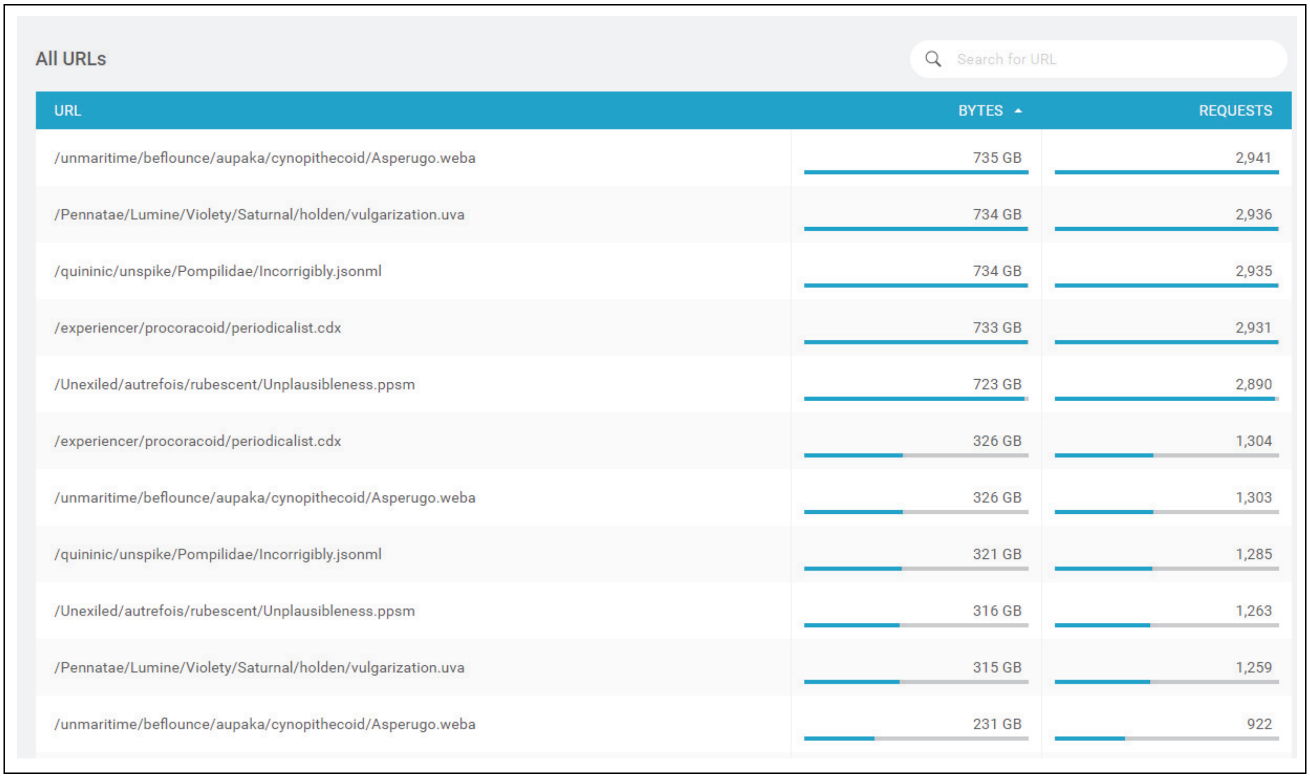
Figure 3-20: URL Report: Top URLs



The bottom of the report (Figure 3-21) lists header information. Each URL is listed with its associated Bytes and Requests volume.

Above this table and to the right, you will find a Search field where you can enter a URL. The search field acts as a filter for the list below, and displays partial and full matches depending on the URL information you enter.

Figure 3-21: URL Report: All URLs



All URLs

Search for URL

URL	BYTES	REQUESTS
/unmaritime/beflounce/aupaka/cynopithecoid/Asperugo.weba	735 GB	2,941
/Pennatae/Lumine/Violety/Saturnal/holden/vulgarization.uva	734 GB	2,936
/quininic/unspike/Pompilidae/Incorrigibly.jsonml	734 GB	2,935
/experiencer/procoracoid/periodicalist.cdx	733 GB	2,931
/Unexiled/autrefois/rubescent/Unplausibleness.ppsm	723 GB	2,890
/experiencer/procoracoid/periodicalist.cdx	326 GB	1,304
/unmaritime/beflounce/aupaka/cynopithecoid/Asperugo.weba	326 GB	1,303
/quininic/unspike/Pompilidae/Incorrigibly.jsonml	321 GB	1,285
/Unexiled/autrefois/rubescent/Unplausibleness.ppsm	316 GB	1,263
/Pennatae/Lumine/Violety/Saturnal/holden/vulgarization.uva	315 GB	1,259
/unmaritime/beflounce/aupaka/cynopithecoid/Asperugo.weba	231 GB	922

Chapter 4
Working with Accounts

Accounts are defined as companies that either send content to (Content Providers), or receive content from (Service Providers), the Portal. Only UDN Administrators can view or manage Accounts.

This chapter contains the following sections.

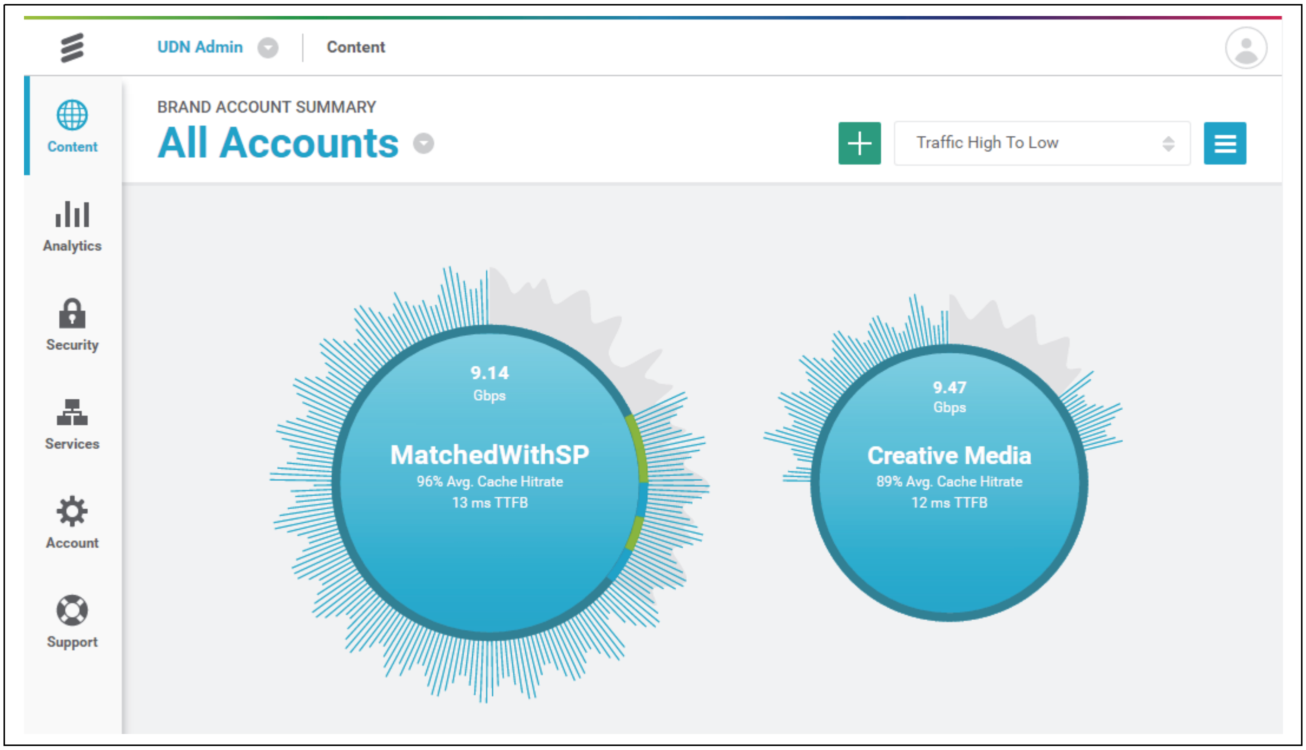
- "Viewing Account Information"
- "Creating or Modifying an Account"
- "Deleting an Account"
- "Managing DNS Domains and Records"

Viewing Account Information

To view Account information:

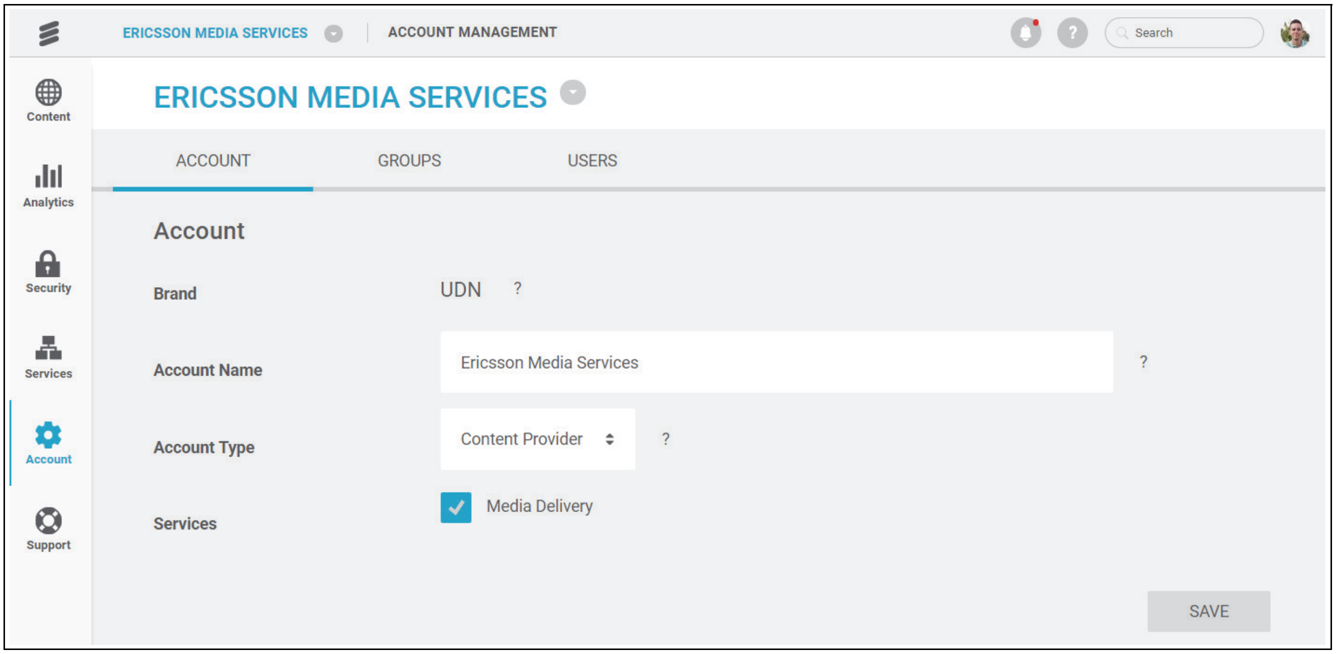
1. From any page, click the Ericsson logo in the upper left corner. The Account Summary page displays (Figure 4-1).

Figure 4-1: Account Summary Page



2. To view information for the Groups associated with that Account for a single Account, do one of the following:
   - Click the desired Account Starburst.
   - Click the selection icon at the top of the page to choose from a drop-down list of Accounts.
3. To view Account details, click the Account icon in the left navigation bar. The Account Management page displays (Figure 4-2).

Figure 4-2: Account Management Page: Single Account Selected

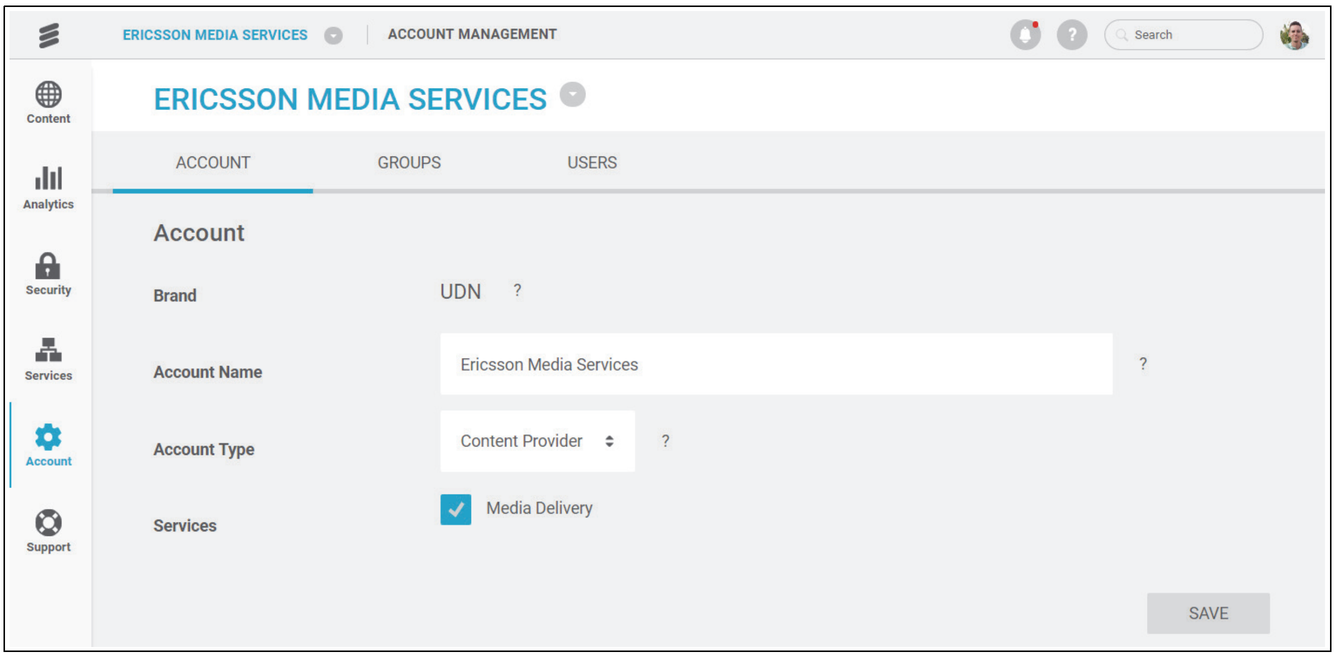


Creating or Modifying an Account

To create or modify an Account:

1. Do one of the following:
   - If you want to add an account, click the Ericsson icon at the top right corner of the page, then click the Add (+) icon.
   - If you want to modify an existing Account, navigate to the summary view of that Account.
2. Click the Account icon in the left navigation bar. The Account Management page displays (Figure 4-3).

Figure 4-3: Account Management Page: Single Account Selected



3. Under the Account tab, you can specify the following settings:
   - Account Name
   - Brand (you must select UDN).
   - Account Type (Service Provider or Content Provider). Note that you cannot modify the Account Type for an existing Account.
   - Services (you must select Media Delivery).
4. When finished, click Save.

Deleting an Account

The Portal allows UDN_Admin users to delete Accounts. Deleting an Account also results in the deletion of any Groups, Users, or Properties associated with this Account.

CAUTION

Delete with care: you cannot restore a deleted Account.

To delete an Account:

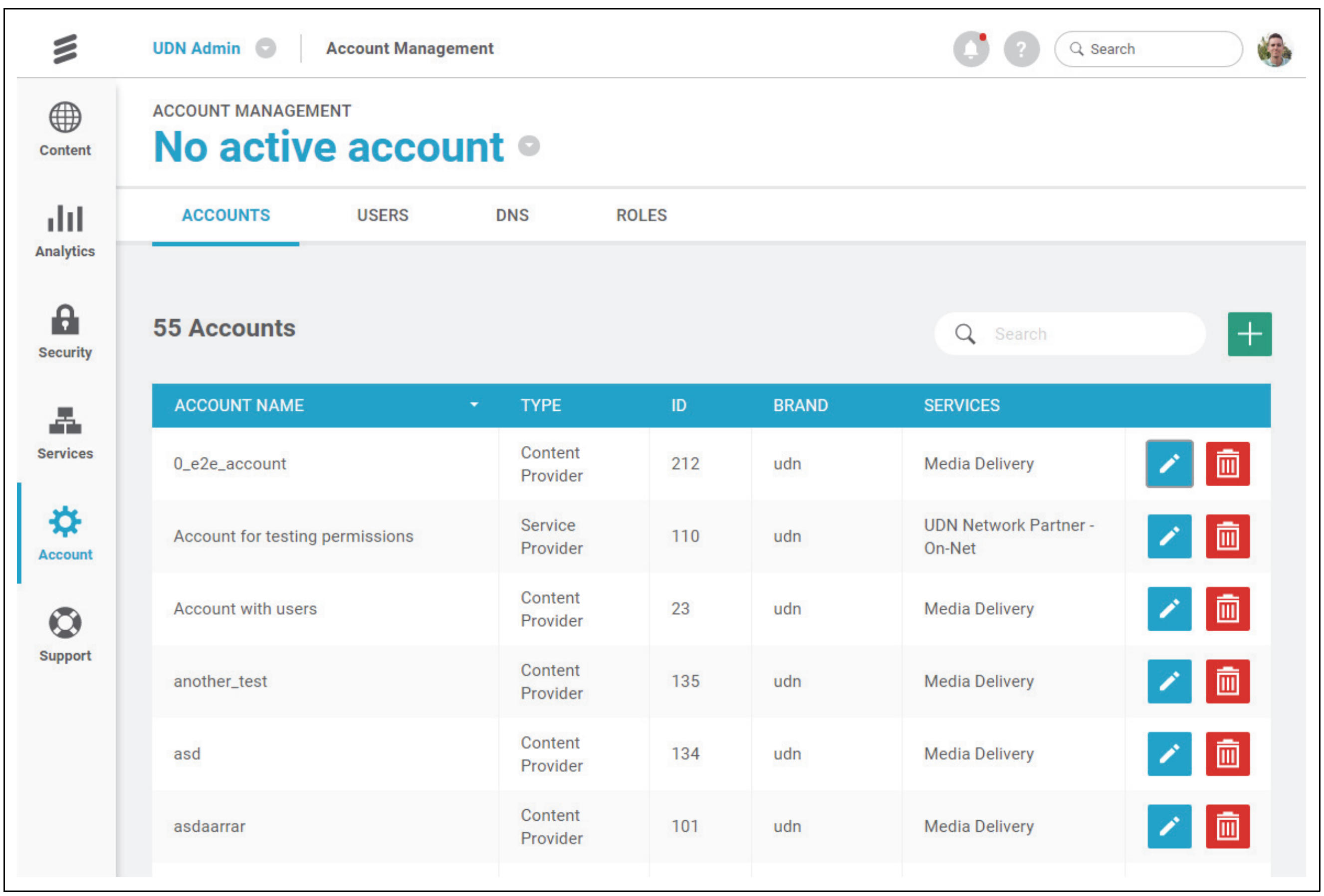
1. From any page, click the Ericsson logo in the upper left corner. The Accounts view displays.

   NOTE

   Do not select a specific Account.

2. Click the Account icon in the left navigation bar. The Account Management page displays a listing of all Accounts (Figure 4-4).

Figure 4-4: Account Management Page: No Account Selected



3. Locate the row containing the desired Account. If needed, you can use the Search box to find a specific Account.
4. Click the Delete icon on that row to delete the Account.
5. Confirm your deletion.

Managing DNS Domains and Records

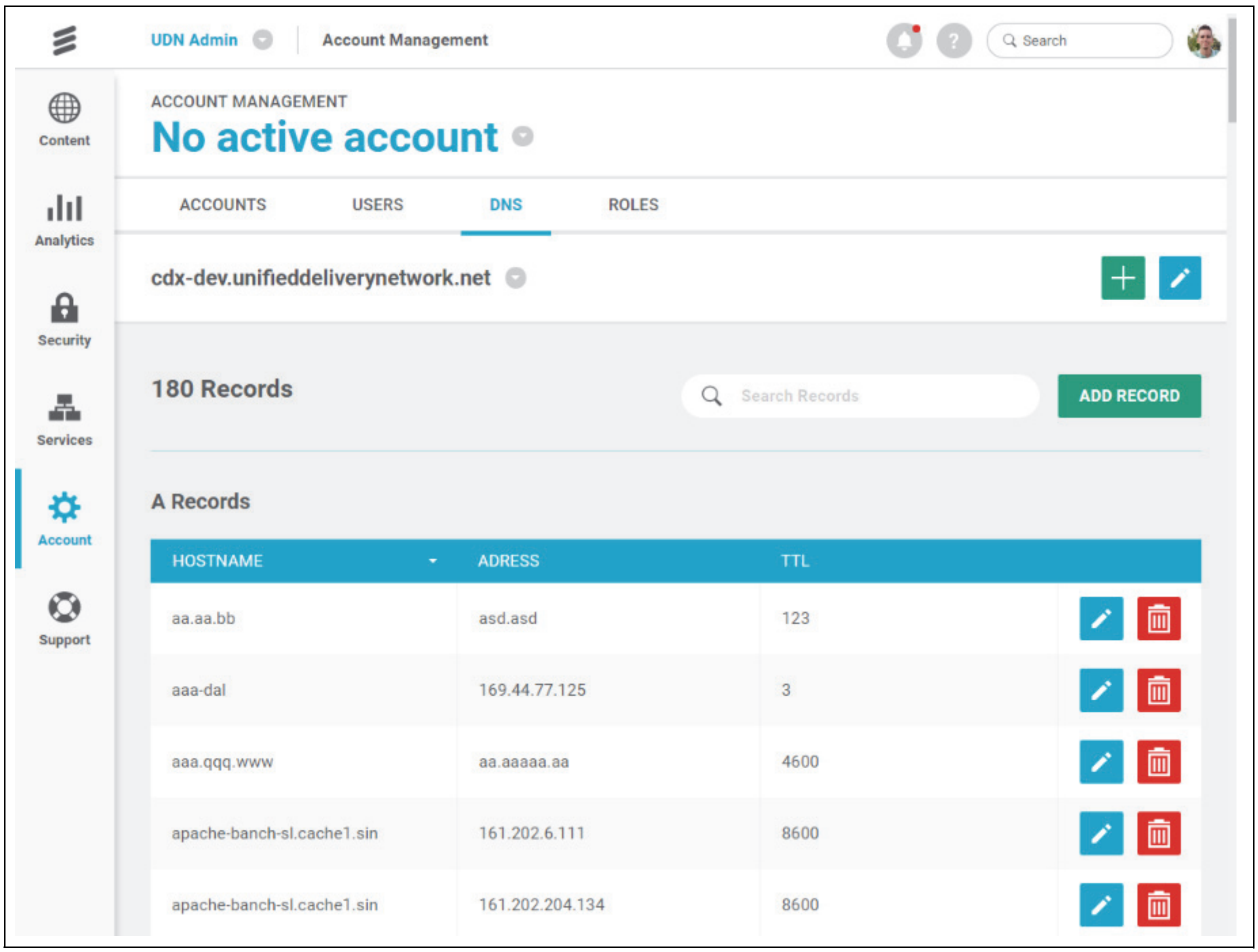
In order to properly configure the UDN Service, Administrators need to create DNS records in the Portal. DNS records provide mapping information that informs the DNS server the IP address associated with each domain. It also instructs the UDN Service on how to handle requests that are sent to each domain.

Viewing DNS Information

To view DNS information:

1. Click the Ericsson icon at the upper left of the Portal interface.
2. Click the Account icon in the left navigation bar.
3. Click the DNS tab.

Figure 4-5: Account Management: DNS Tab



NOTE

The DNS tab only displays when no specific Account is selected.

The DNS tab displays the following information:

- The top of the page displays the currently selected domain.
  You can choose a different domain by using the drop-down selector to the right.
- A table lists DNS Records associated with this Domain. Records are organized by record type. Each DNS record lists the Hostname, Address, and Time-to-Live (TTL) for that Record.

Managing DNS Domains

UDN Administrators need to configure and manage the Domains associated with each UDN Service customer.

1. Click the Ericsson logo in the upper left corner of the Portal.
2. Click the Account icon in the left navigation bar.
3. Click the DNS tab. Note the Domain area at the top of the tab.

Figure 4-6: Account Management: DNS Tab Domain Area

4. To add or edit a Domain:
   a. Do one of the following:
      - To modify a domain, first select the desired domain using the selector drop-down, then click the Edit (pencil) icon to the far right.
      - To add a Domain, click the add (+) icon.

   b. Specify the settings associated with this Domain (Table 4-1).

Table 4-1: DNS Domain Settings

Setting	Description
Domain Name	The name of this domain
Primary NameServer	The primary nameserver for this domain.
Contact	Specify the email address of the person primarily responsible for this Domain.
Refresh	The refresh rate for DNS information in this domain.
TTL	The Time to Live for DNS information.
Negative TTL	The Time to Live for negative response to DNS queries.

   c. When finished, click Add if you created a Domain, or click Save if you modified one.

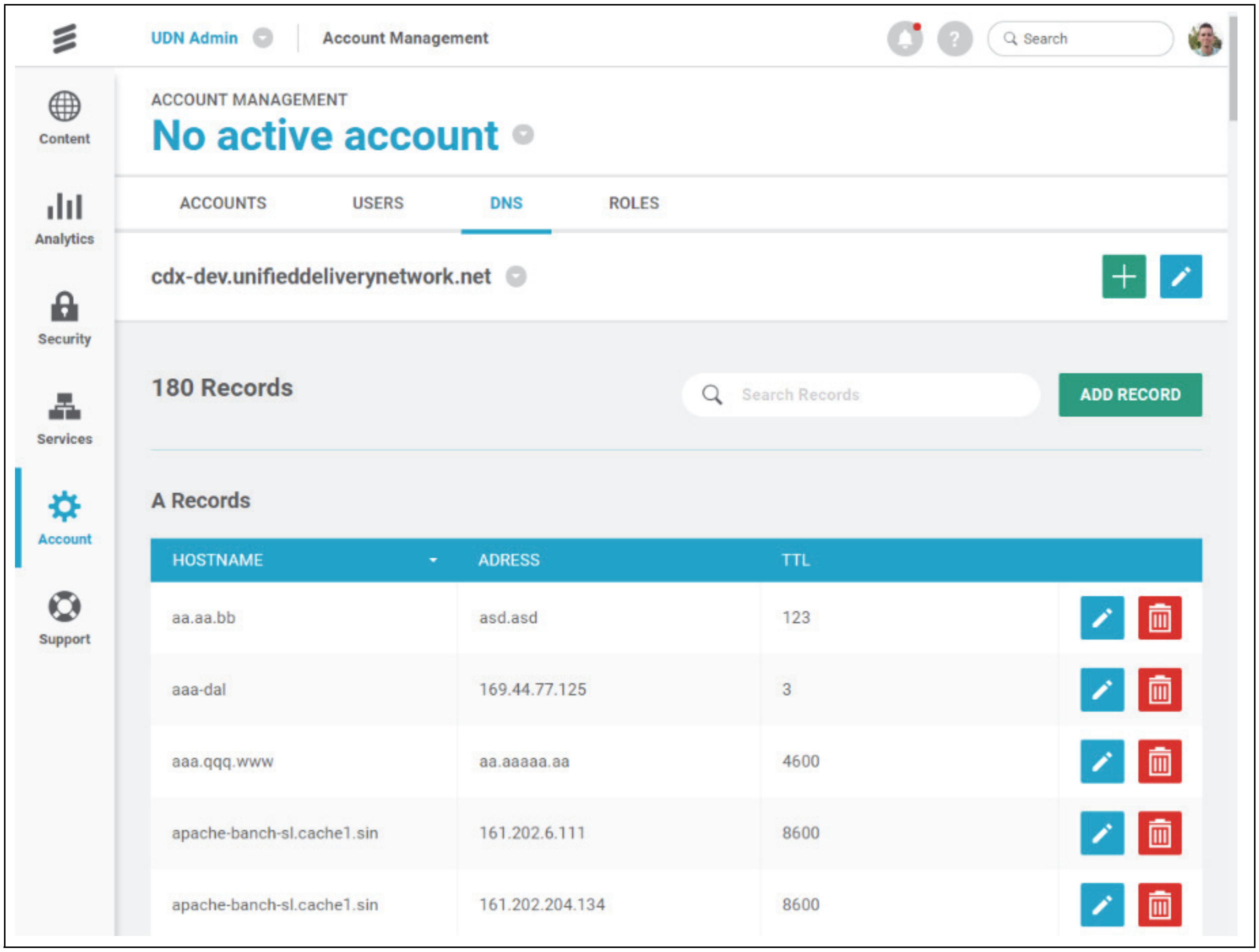
5. To Delete a Domain:
   a. Select the desired domain using the selector drop-down.
   b. Click the Edit (pencil) icon to the far right.
   c. Click Delete.
   d. Confirm your selection to complete the operation.

Managing DNS Records

DNS Records tell the DNS server the IP address associated with a specific domain, and how to handle requests sent to that domain.

1. Click the Ericsson logo in the upper left corner of the Portal.
2. Click the Account icon in the left navigation bar. The DNS tab displays ().

Figure 4-7: Account Management: DNS Tab



NOTE

The DNS tab only displays when no specific Account is selected.

1. To add a DNS Record:
   a. Do one of the following:
      - To create a DNS Record, click Add Record.
      - To modify a Record, locate the row for that Record in the Records tables.
        Records are organized by Record type, which can help you locate the desired Record.
        You can also enter information for that Record in the Search field.

Once you have located the row associated with the DNS Record you want to modify, click the Edit (pencil) icon.

b. Enter the information associated with the DNS Record, as described in Table 4-2.

Table 4-2: DNS Record Settings

Record Type	Description	Settings
A	Address Records, also called Host Records, link a domain to the physical IPv4 address of a computer hosting that domain's services.	• Host Name: • Address • TTL Value
AAAA	Address Records, also called Host Records, link a domain to the physical IPv6 address of a computer hosting that domain's services.	• Host Name: • Address • TTL Value
CNAME	Canonical Name records act as domain name aliases.	• Host Name: • Address • TTL Value
DNAME	DNAME Records are used to map/rename a sub-tree of the DNS name space to another domain.	• Host Name: • Address • TTL Value
HINFO	HINFO Records specify the host/server's CPU type and operating system.	• Host Name: • Address • TTL Value
MX	MX Records direct a domain's email to the servers hosting the domain's user accounts.	• Host Name: • Address • Priority • TTL Value
NAPTR	NAPTR Records store rules used by DDDS (Dynamic Delegation Discovery System) adaptations.	• Host Name: • Address • Priority • TTL Value
NS	Name Server Records determine which servers will communicate DNS information for a domain.	• Host Name: • Address • TTL Value
PTR	PTR Records are primarily used to map IP addresses to domain names (the reverse of A and AAAA Records).	• Host Name: • Address • TTL Value
SPF	SPR Records specify which hosts (email servers) are allowed to send emails from a domain name.	• Host Name: • Address • TTL Value

Table 4-2: DNS Record Settings *(Continued)*

Record Type	Description	Settings
SRV	SRV Records specify the location of a service.	• Host Name: • Address • Priority • TTL Value
TXT	TXT Records provide descriptive human or machine readable text information to sources outside your domain	• Host Name: • Address • TTL Value

2. To delete a DNS Record, locate the row for that Record in the Records tables.

   Records are organized by Record type, which can help you locate the desired Record.

   You can also enter information for that Record in the Search field.

   Once you have located the row associated with the DNS Record you want to modify, click the Delete (trash) icon.

3. Confirm your selection to complete the operation.

Chapter 5
Working with Users

The Portal can only be accessed by people who have been added as Portal users. Each user is associated with a specific Portal Account. When a Portal user is added, they are assigned a user role which grants them permission to access specific Portal features.

This chapter contains the following sections:

- "Understanding User Roles and Permissions"
- "Viewing and Managing Users"
- "Deleting a User"

Understanding User Roles and Permissions

In order to access the Portal, people must be added to the Portal as users, and when a User is created, they are given a User Role chosen from those predefined in the Portal.

Roles fall under one of two categories: Administrator or User. In addition to the ability to view information in the Portal, users who have been assigned an Administrator role can also create, modify, and delete items through the Portal interface. Those with a User role can view items in the Portal interface, but cannot create, modify, or delete them.

Each role provides specific permission to access different features of the UDN Admin Portal, as shown in Table 5-1.

Table 5-1: Predefined Portal Role Permissions

Portal Feature	**UDN Admin**	**CP Admin**	**CP User VIEW ONLY**	**SP Admin**	**SP User VIEW ONLY**
Account	X	X	X	X	X
Analytics	X	X	X	X	X
Analytics - Daily Cache Hit Rate Report	X	X	X		
Analytics - File Error Report	X	X	X		
Analytics - SP Contribution Report	X	X	X	X	X
Analytics - SP On/Off Net Report	X	X	X	X	X
Analytics - Traffic Overview Report	X	X	X		
Analytics - Unique Visitors Report	X	X	X		
Analytics - URL Report	X	X	X		
Configuration	X	X	X		
Content	X	X	X	X	X
DNS	X				
Security	X	X	X		
Services	X	X	X		
Support	X	X	X	X	X

NOTE

If a user attempts to access a feature that their role does not grant permission to access, a message indicating this will display.

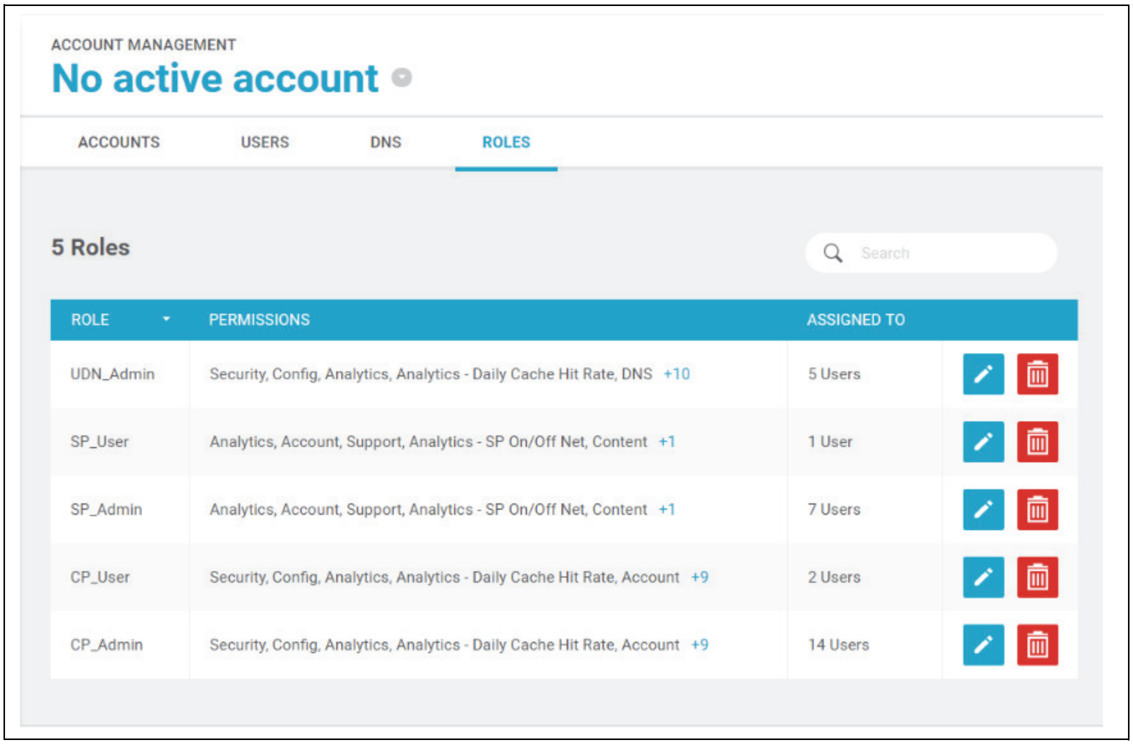
Viewing Role Details

Note that only UDN Administrators can view Role details.

To view Role information:

1. Navigate to the summary page for the desired Account.
2. Click the Roles tab.

Figure 5-1: Account Management: Roles Tab



3. Click the Edit tab to view detailed permissions information for each role.

NOTE

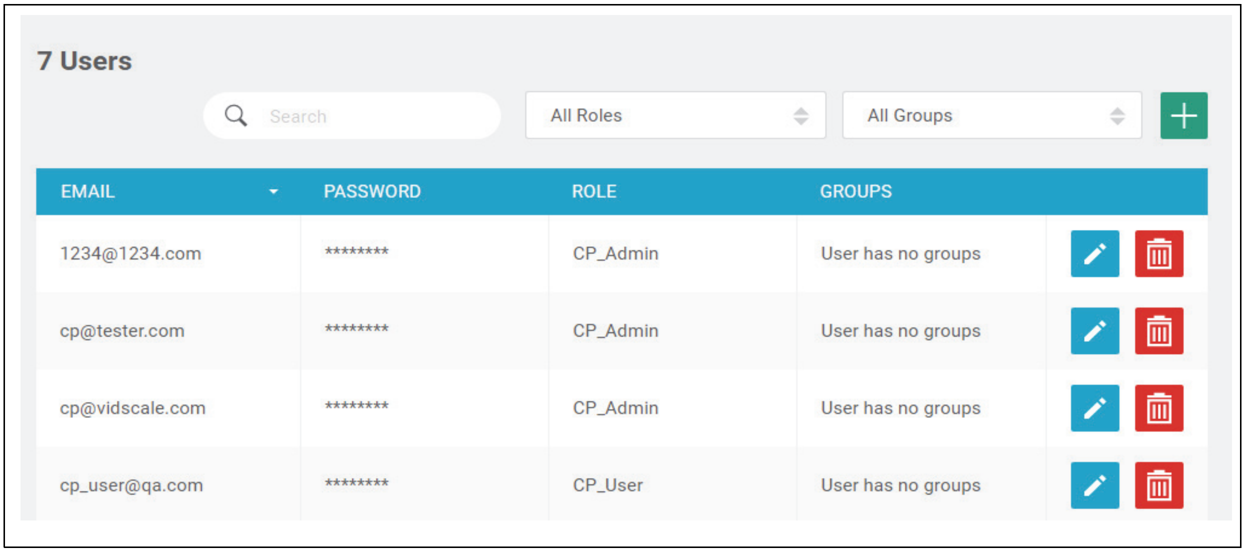
You cannot custom-define roles in this release, nor can you edit or delete predefined roles.

Viewing and Managing Users

To view User information:

1. Navigate to the summary page for the desired Account.
2. Click the Users tab. A list of all current Users displays. For each User, the table lists their Email (which is also their user name), Password, Role, and any Groups they belong to.

Figure 5-2: Account Management: Users Tab



3. To search for a specific user, enter information in the Search area.
4. To view users with specific Roles, select the desired option in the Role drop-down list.

> NOTE
>
> Users are not assigned to Groups in this release, so searching for Users in the Groups drop-down will yield no results.

5. To add a user, click the Add (+) icon.

> NOTE
>
> Only Users with Admin permissions can add other Users. For more information on User Roles see “Understanding User Roles and Permissions”.

   a. Specify the user’s email (which acts as their username).

   b. Specify and confirm the user’s password. Passwords must meet the following requirements:
   - Between 8-15 characters long
   - Contain at least one uppercase letter
   - Contain at least one lowercase letter
   - Contain at least one number
   - Contain at least one special character (non-alphanumeric characters)

c. Select the user’s Role.

d. Click Save to save your changes, or click X to cancel the operation.

6. To edit a user, locate the row associated with that user in the table, and click EDIT.

NOTE

Only Users with an Admin Role can edit users. For more information on User Roles see “Understanding User Roles and Permissions”.

Specify the information associated with this user by entering:

- Their email (which acts as their username)
- Their first name
- Their last name
- Their phone number
- Their password
- Their user role.

7. When finished, click Save to save your changes, or click Cancel to cancel the operation.

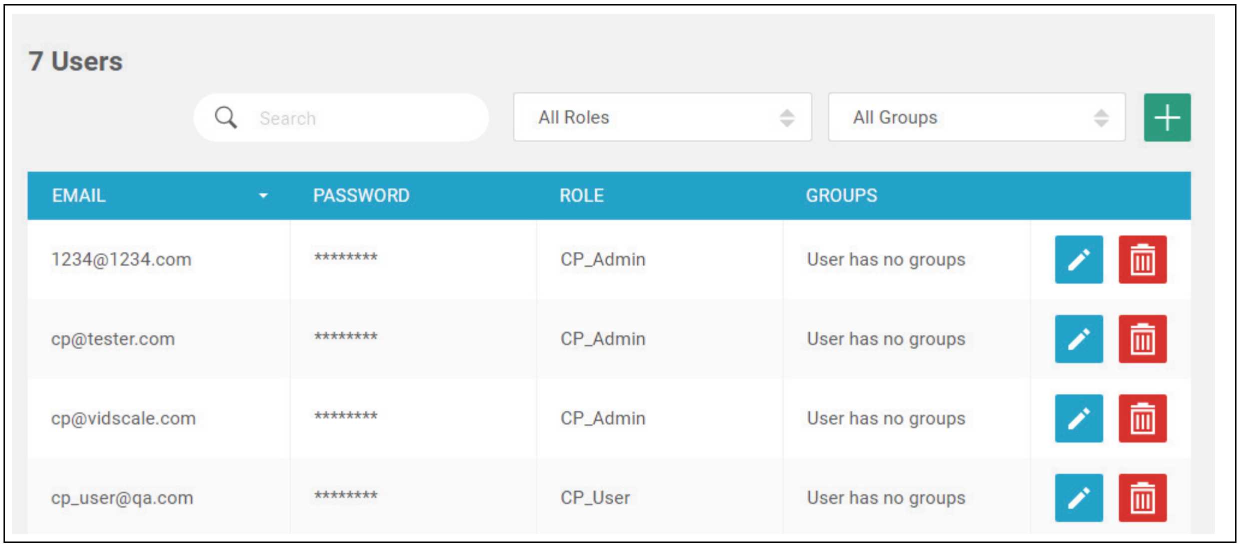
Deleting a User

Only Users with Admin permissions can delete users. For more information on Roles see “Understanding User Roles and Permissions”.

To delete a User:

1. Navigate to the summary page for the desired Account.
2. Click the Users tab.

Figure 5-3: Accounts Page: Users Tab



3. Locate the row associated with the user in the table, and click the Delete icon on that row.
4. Confirm the deletion to complete the operation.

Chapter 6
Working with Groups

The UDN Administrator Portal is a Graphical User Interface (GUI) web application that serves as the management application for UDN administration, configuration, and monitoring.

Groups are defined as collections Properties associated with a specific Account. Groups also include a collection of Users who have permission to access that Group.

This chapter contains the following sections:

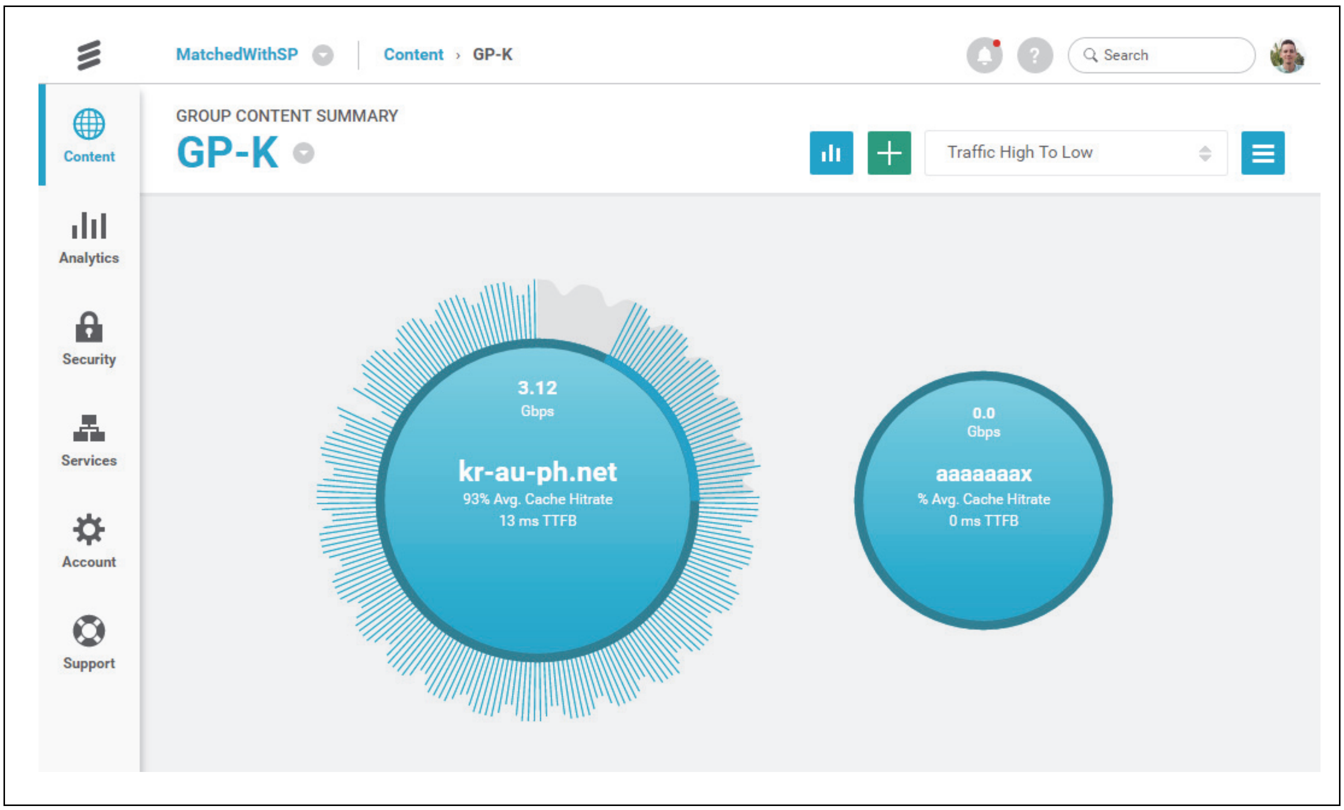
- "Viewing and Managing Groups"
- "Deleting a Group"

Viewing and Managing Groups

To view and manage Groups:

1. Navigate to the summary page for the desired Account.
2. Select a Group by doing one of the following:
   - Click the selection icon to choose from a drop-down list of Groups.
   - Click the desired Group Starburst to display additional information for that Group.
3. Information for the selected Group displays on the Group Content Summary page (Figure 6-1). This page displays a Starburst for each Property that belongs to the Group.

Figure 6-1: Group Content Summary Page

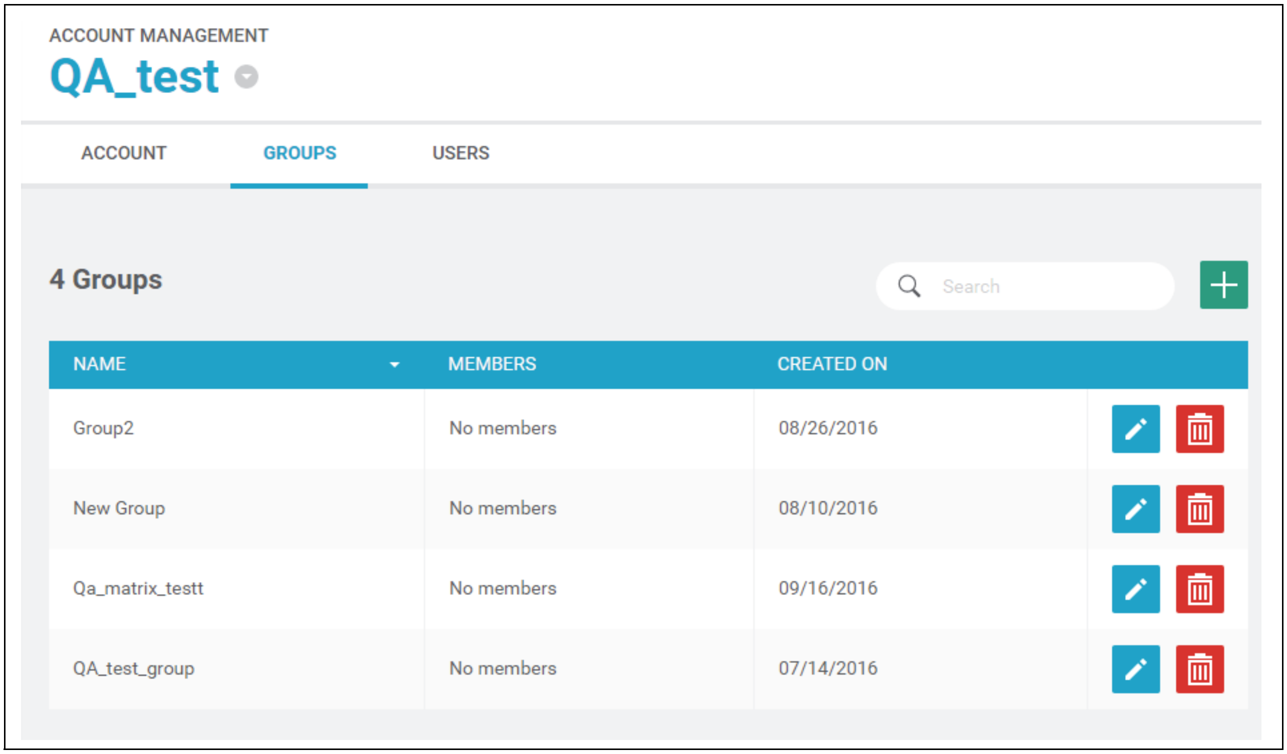


NOTE

If you wish to add or modify the Properties associated with this Group, refer to Chapter 7, "Working with Properties" for further information.

4. Click the Account icon in the left navigation bar. The Account Management page displays.
5. Click the Groups tab (Figure 6-2) to view information about all existing Groups associated with this Account.

Figure 6-2: Account Management: Groups Tab



6. To add a Group:

   NOTE

   Only Users with Admin permissions can add Groups. For more information on User Roles see "Understanding User Roles and Permissions".

   a. Click the Add (+) icon.
   b. Enter the Name of the Group
   c. Click Save to save your changes, or click X to cancel the operation.

7. To edit a Group:

   NOTE

   Only Users with an Admin Role can edit Groups. For more information on User Roles see "Understanding User Roles and Permissions".

   a. Locate the row associated with that Group in the table.
   b. Click the Edit icon (pencil) at the end of that row.
   c. Edit the Name of the Group.
   d. Click Save to save your changes, or click X to cancel the operation.

Deleting a Group

The Portal allows users with the appropriate privileges to delete Groups. Note that when you delete a Group, any Properties associated with that Group are also deleted.

CAUTION

Delete with caution: you cannot restore a deleted Group.

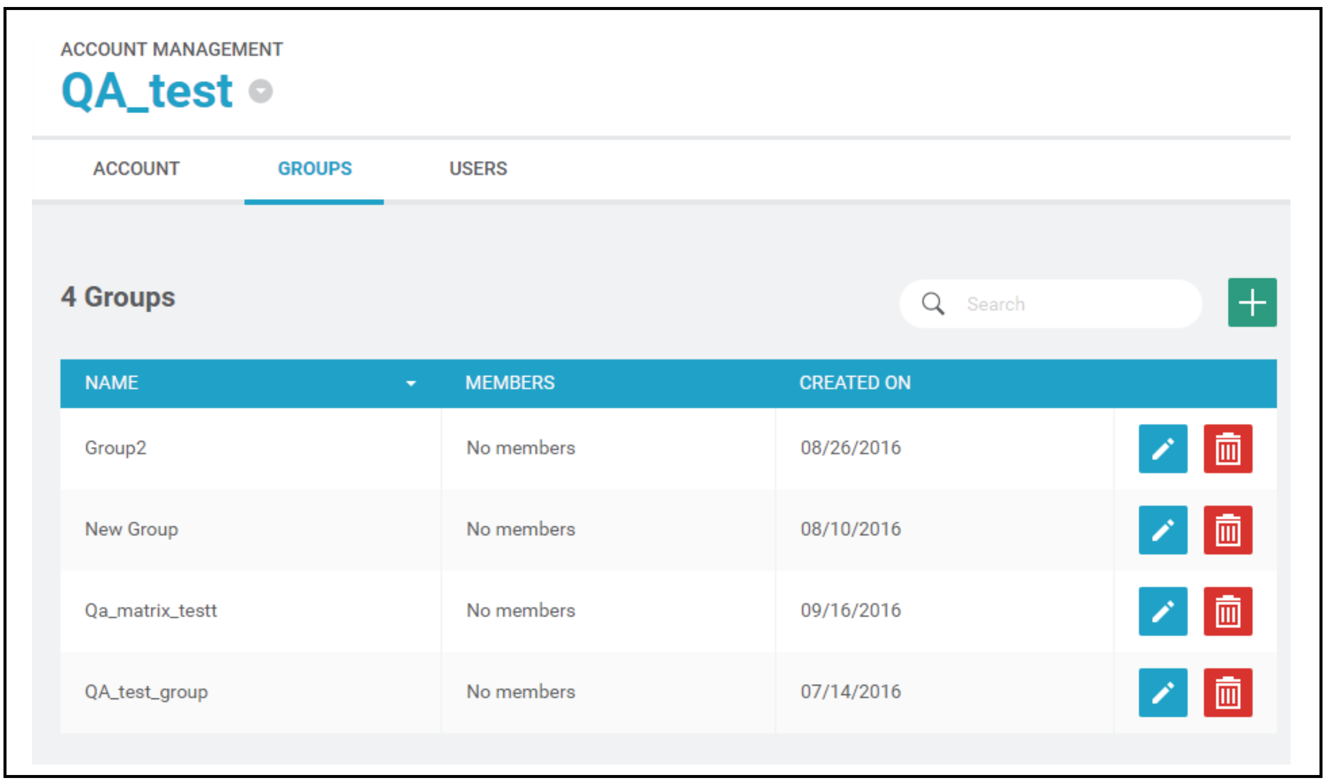
NOTE

Only Users with an Admin Role can delete Groups. For more information on User Roles see "Understanding User Roles and Permissions".

To delete a Group:

1. Navigate to the summary page for the desired Account.
2. Click the Account icon in the left navigation bar. The Account Management page displays.
3. Click the Groups tab.

Figure 6-3: Account Management: Groups Tab



1. Locate the row associated with that Group in the table.
2. Click the Delete icon (trash) at the end of that row.
3. Confirm your action to complete the operation.

Chapter 7
Working with Properties

The UDN Administrator Portal is a Graphical User Interface (GUI) web application that serves as the management application for UDN administration, configuration, and monitoring.

Each UDN Property represents a Content Provider's published host name, or the URL of the actual asset to be accelerated. The Portal provides a rich collection of settings to enable you to specify the unique parameters associated with each Content Provider's Property.

This chapter contains the following sections:

- "Viewing Properties"
- "Adding a Property"
- "Modifying a Property"
- "Publishing Property Settings"
- "Deleting a Property"

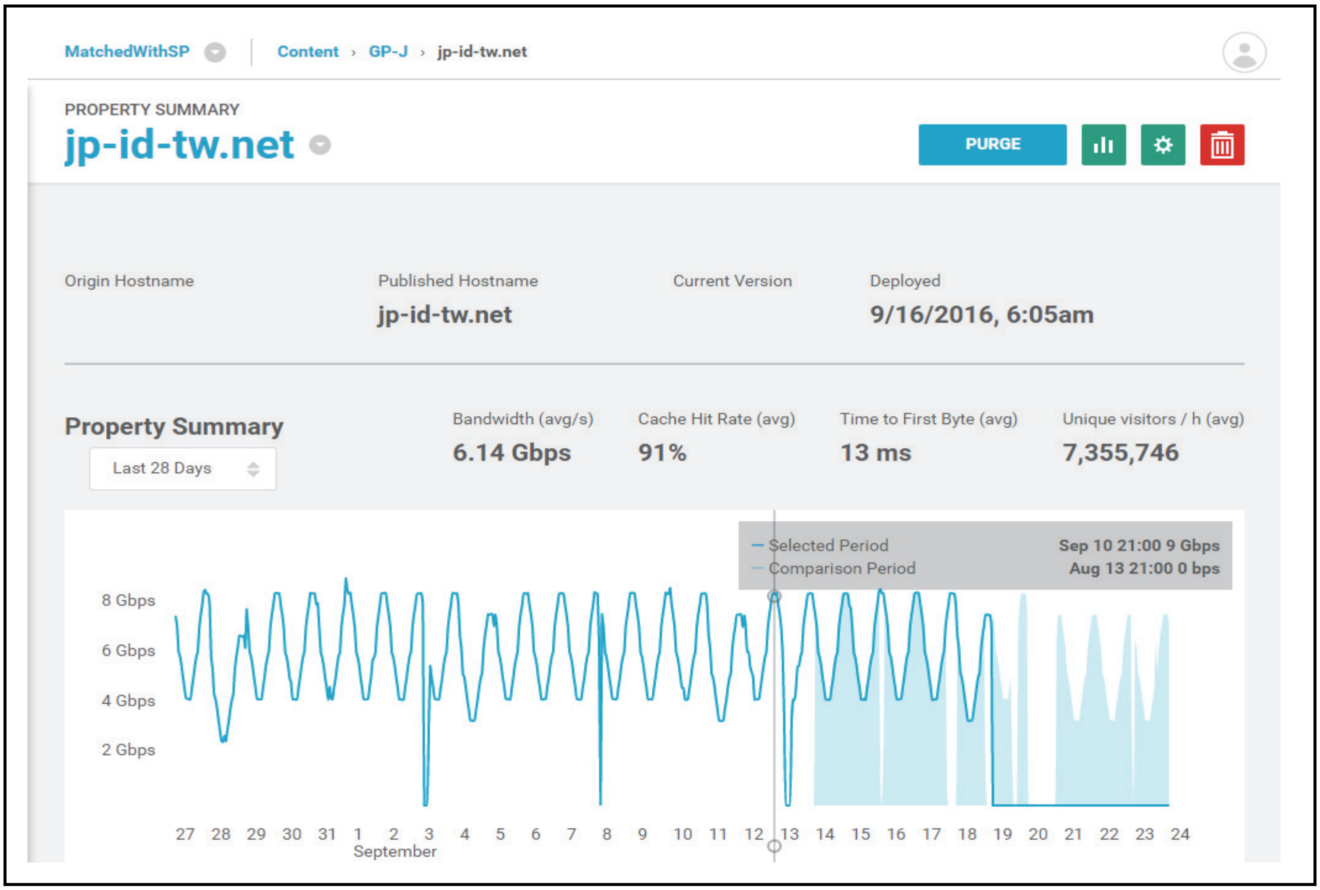
Viewing Properties

To view and manage a Property:

1. Navigate to the summary page for the desired Account.
2. Navigate to the Group to which the desired Property belongs by doing one of the following:
   - Click the selection icon to choose from a drop-down list of Groups.
   - Click the desired Group Starburst to display information for that Group.
3. Navigate to the desired Property by doing one of the following:
   - Click the selection icon to choose from a drop-down list of Properties.
   - Click the desired Property Starburst to display information for that Property.

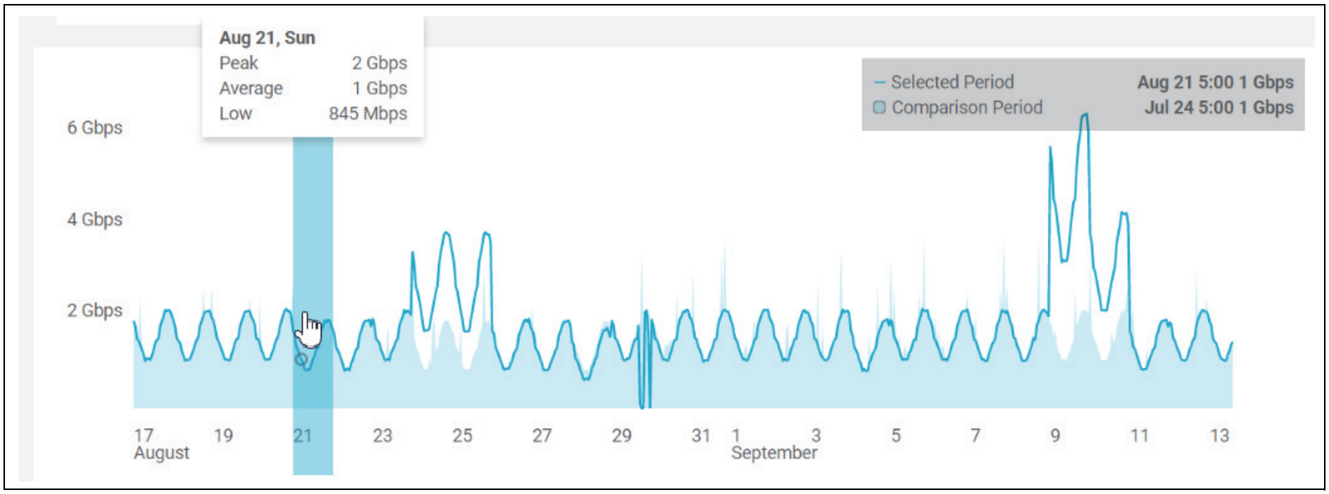
   The Property Summary page displays (Figure 7-1).

Figure 7-1: Property Summary Page



4. Just above the chart at the top of the page is a drop-down selector that enables you to choose the period of time for which you want to display data. This chart also provides additional detail on a specific day when you hover over any portion of the graph (Figure 7-2).

Figure 7-2: Property Summary Graph



NOTE

When you hover over a specific date, then click on it, the graph will zoom in to show data for that day.

The Property Summary page displays the following information about the Property:

Table 7-1: Property Summary Information

Information	Description
Property Name	The name of the Property, followed by a drop-down icon that enables you to select any other Property in that Group.
Origin Hostname	The URL of the origin associated with the Property.
Published Hostname	The hostname associated with the Property.
Current Version	The current version of the Property configuration.
Deployed date	The date of this Property's configuration deployment.
Property Summary date range selector	Enables you to specify the date range to display in the chart below. You can choose to view data for the Last 28 Days, or to specify a Custom Date Range.
Bandwidth (avg/s)	The average bandwidth over the specified date range.
Cache Hit Rate (avg)	The average cache hit rate for this Property over the specified date range.
Time to First Byte (avg)	The average TTFB over the specified date range.
Unique Visitors / hour (avg)	The average number of unique visitors per hour over the specified date range.

5. There are icons at the upper right which enable you to access other Portal features, enabling you to:
   - Purge content from the Property, as described in “Purging Cache Content” in Chapter 8.
   - Generate reports for traffic associated with this property, as described in Chapter 3, “Generating Reports”

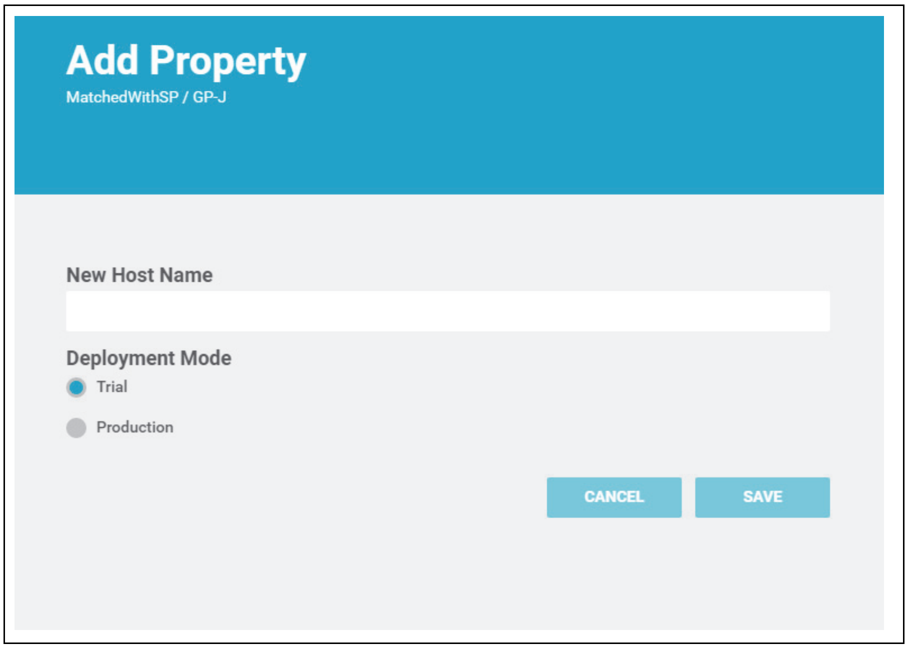
Adding a Property

Only Users with an Admin Role can add Properties. For more information on User Roles see "Understanding User Roles and Permissions".

To add a Property:

1. Navigate to the Group to which you want to add the Property.
2. At the upper left of the Group Summary page, click the Add (+) icon.
3. The Add Property page displays ().

Figure 7-3: Add Property



4. Enter the Host Name for the new Property.
5. Select the Deployment Mode for this Property.
6. Click Save.
7. Once you have created your Property, you can customize its settings. For detailed information, see "Modifying a Property".

Modifying a Property

Only Users with an Admin Role can modify Properties. For more information on User Roles see "Understanding User Roles and Permissions".

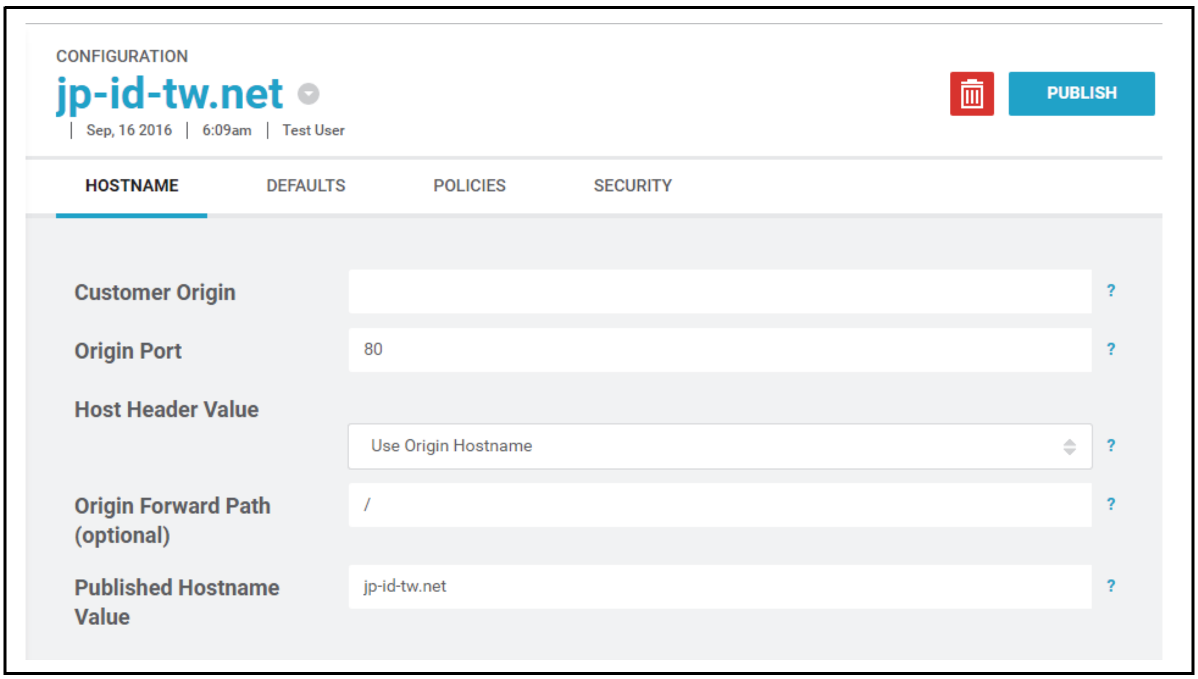
To create or modify a Property:

1. Navigate to the Group to which the Property belongs.
2. Do one of the following:
   a. To create a Property, click the Add (+) icon.
   b. To edit an existing Property, navigate to a page displaying that Property, then click the Configure icon. 

      You can find this icon on the Table View row for a specific Property, or at the top of a Property Summary page. To access this icon on a Starburst page, hover over the center of the Starburst for that Property until the Configure icon displays.

   The Property Configuration page displays (Figure 7-4).

Figure 7-4: Property Configuration Page: Hostname Tab



3. Click the Hostname tab in order to view Hostname settings for this Property. To configure Property Hostname settings:
   a. Specify the URL for the Customer Origin, which is the web server that holds the CP content.

      The Customer Origin is the publicly addressable location of the web server from which the UDN platform will retrieve content for delivery to end users.

      This address can be either a fully qualified domain name or an IP address. Typically, the customer origin is a subdomain of the delivery domain such as origin.example-domain.com.

   b. Specify the Origin Port.

      By default, the UDN platform will use port 80 to fetch HTTP content and port 443 to fetch HTTPS content.

c. Specify the Host Header Value, which is the value that the UDN caching server will use for the origin host name. You can choose from three options:
   - Use Other Hostname Value (after which you specify a custom value on the following line)
   - Use Origin Hostname
   - Use Published Hostname

d. The Origin Forward Path is an optional setting that should only be used if the content on the origin does not use the same request path as the end user request path.

   By default, the Origin Forward Path will be set to the path of the end user URL request.

   If you want to specify a separate request path, do so here.

e. The Published Hostname Value is the hostname used to deliver content to the end users (sometimes called a Vanity Hostname). This Published Hostname must be a sub-domain value.

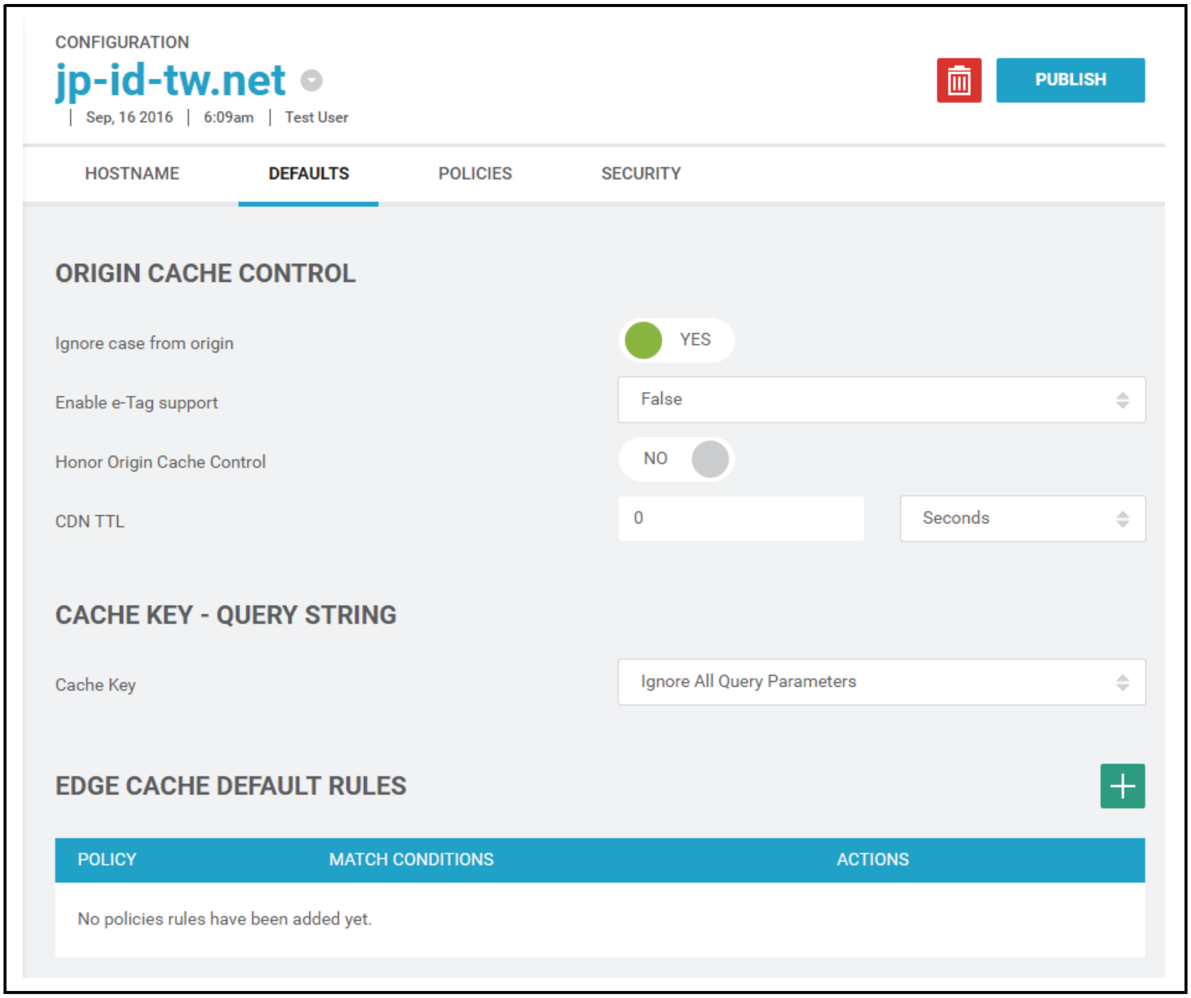
   NOTE

   The Published Hostname Value cannot be modified in this version of the Portal.

f. When finished, click Save.

4. To Configure Property Default settings, click the Defaults tab (Figure 7-5).

Figure 7-5: Property Configuration: Defaults Tab



5. Settings associated with Origin Cache Control are located at the top of the Defaults tab. These settings allow you to specify how the caching server should interact with the origin.

   a. Set "Ignore Case from Origin" to either Yes or No.

      This setting provides support for situations where content received from the origin is case sensitive.

   b. Set the type of e-tag Support for the origin cache.

      This setting specifies whether the origin supports entity tags in the HTTP header. E-tag usage is one of several mechanisms that HTTP provides for web cache validation, which allows a client to make conditional requests. This allows caches to be more efficient, and saves bandwidth, as a web server does not need to send a full response if the content has not changed.

      You can choose from the following settings:

      - Strong
      - Weak
      - False

c. Specify whether or not to Honor Origin Cache Control.

   This setting determines whether cache control settings in the HTTP header, which affect control of the cache from the origin, are to be honored.

   In some cases, the Origin is used for multiple purposes, not just as a caching origin, and these values may not apply to UDN usage.

d. Specify the CDN Time To Live (TTL) value:

   This TTL setting specifies the period of time (specified in seconds, minutes, hours, or days) that the cached object will remain valid in the cache. Once a cached object is no longer valid, that object will be fetched from the origin when it is next requested.

   If no cache rule match is found in the configuration, or if UDN is instructed to use the Origin's cache control policy and there is no explicit maximum age value, the CDN Time-to-Live (TTL) value will be applied.

e. The middle section of the Defaults tab enables you to specify cache key settings to modify caching behavior. By default, the entire query string value, along with the URL path, is utilized as the cache key value.

   To specify the cache key query string, select the appropriate cache key control:

   - Include all query parameters
   - Ignore all query parameters
   - Include some parameters

   If you choose “Include Some Parameters”, specify one or more Query names (parameters) associated with this caching behavior.

6. Finally, on the Defaults tab, specify Edge Cache Default Rules (policies).

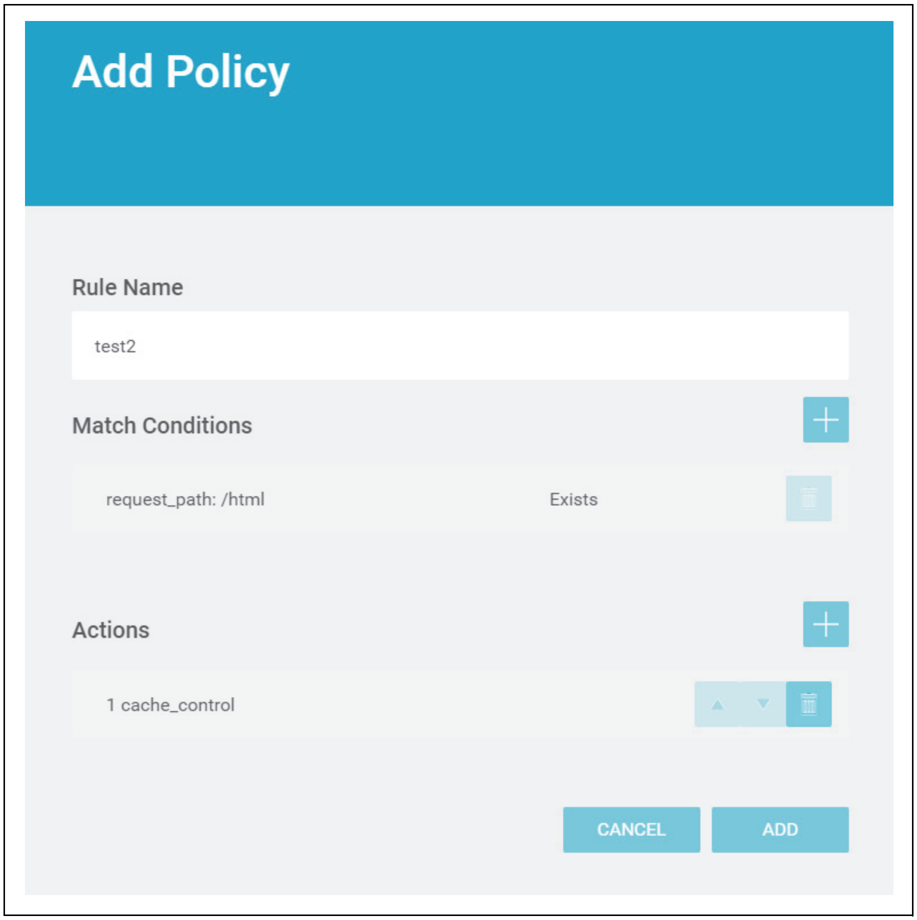
   To manage Edge Cache Default Rules:

   a. Do one of the following:

      - To add a new policy, click the Add (+) icon.
      - To modify an existing policy, locate the policy in the table and click Edit on that row.

      The Add or Edit Policy dialog box displays.

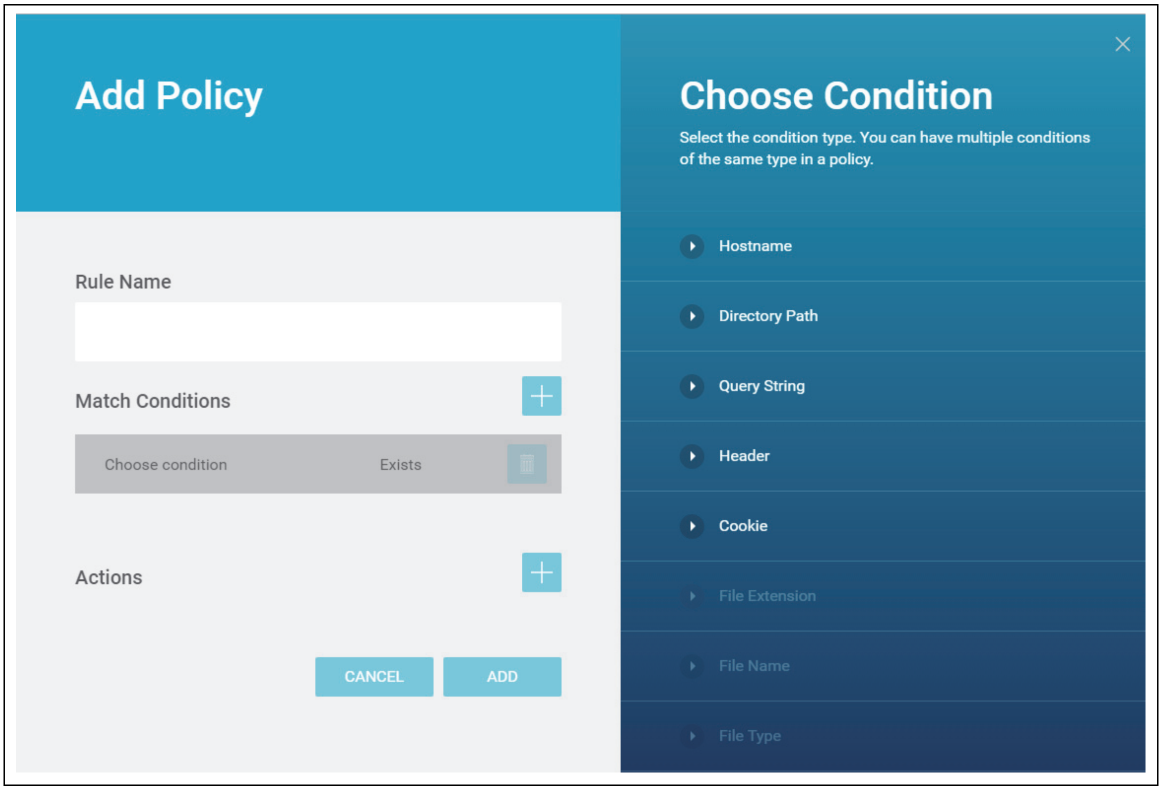
Figure 7-6: Add Policy Screen



b. Specify a name for the Rule you are adding to the Policy.

c. To specify the Match Condition for this Rule, click the Add (+) icon to the right of the Match Conditions label. The Choose Condition pane displays.

Figure 7-7: Add Policy: Choose Condition Panel



- Click to select the condition you want associated with this rule. You can specify conditions associated with a Hostname, Directory Path, Query String, Header, or Cookie.
- Enter the match criteria required for the condition associated with this policy rule.
  When you define a condition, for each condition type, you must indicate the name (text) the system will search for, and under what conditions you want the system to trigger the policy.

Table 7-2: Specifying Policy Conditions

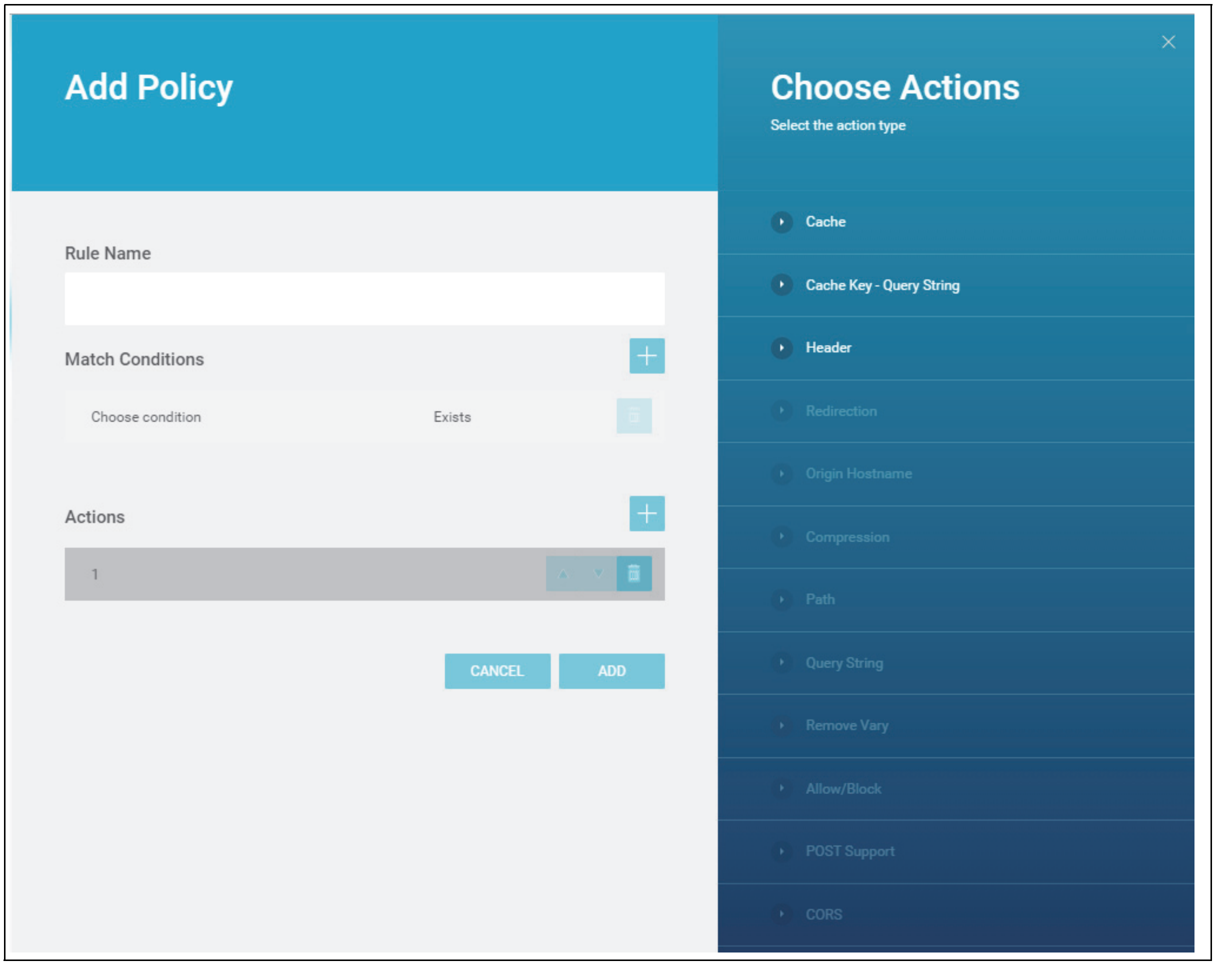
Condition Type	Match Types
Hostname	Does Not Exist
Directory Path	Does Not Exist
Query String	Does Not Exist, Contains, Does Not Contain
Header	Does Not Exist, Contains, Does Not Contain
Cookie	Does Not Exist, Contains, Does Not Contain

- When finished, click Save Match.
- Create additional matches, if needed, for this Policy Rule.

d. To specify the Action the system will take when the match condition is met:

- Click the Add (+) icon to the right of the Actions label. The Choose Action pane displays.

Figure 7-8: Policy Rule: Choose Action Pane



- Select the Action Type you want associated with this rule. This selection specifies the type of action you want the UDN system to take when the match conditions are met. You can select Cache, Cache Key - Query String, or Header.
- Enter the caching action you want taken.
- When finished click Save Action.
- If you wish, you may specify additional actions that will trigger when this Policy Rule applies.

e. When finished specifying information for this rule, click Add.

7. The Policies tab on the Property Configuration page enables you to specify caching policies. For more information, see Chapter 8, “Managing Cache Content”.
8. The Securities tab on the Property Configuration page allows you to enable HTTPS.

   To enable HTTPS:

   a. Change the Enable HTTP selector from NO to YES.
   b. Select the appropriate SSL certificate.
   c. Click Save.

NOTE

For information on how to load an SSL Certificate, refer to Chapter 9, "Loading SSL Certificates".

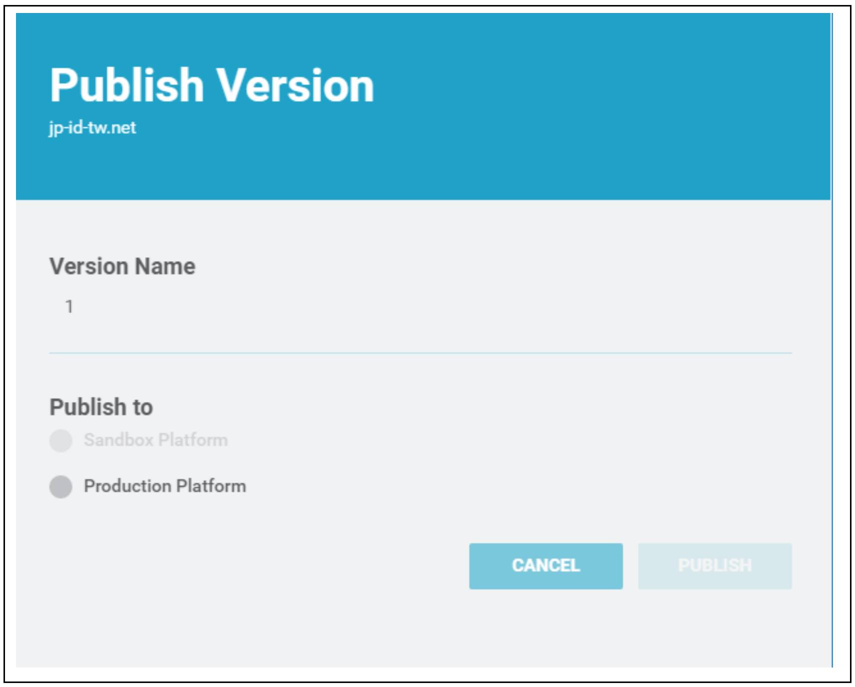
Publishing Property Settings

When you are finished modifying Property settings, you must publish these changes to the servers associated with your Property.

To publish property settings:

1. Navigate to the Group to which the Property belongs.
2. Review the desired settings to ensure they are accurate.
3. Click Publish. The Publish Version page displays (Figure 7-9).

Figure 7-9: Property Settings: Publish Version



4. Select the option to publish to the Production Platform.

   NOTE

   For this version, you can only publish to the Production Platform.

5. Click Publish.

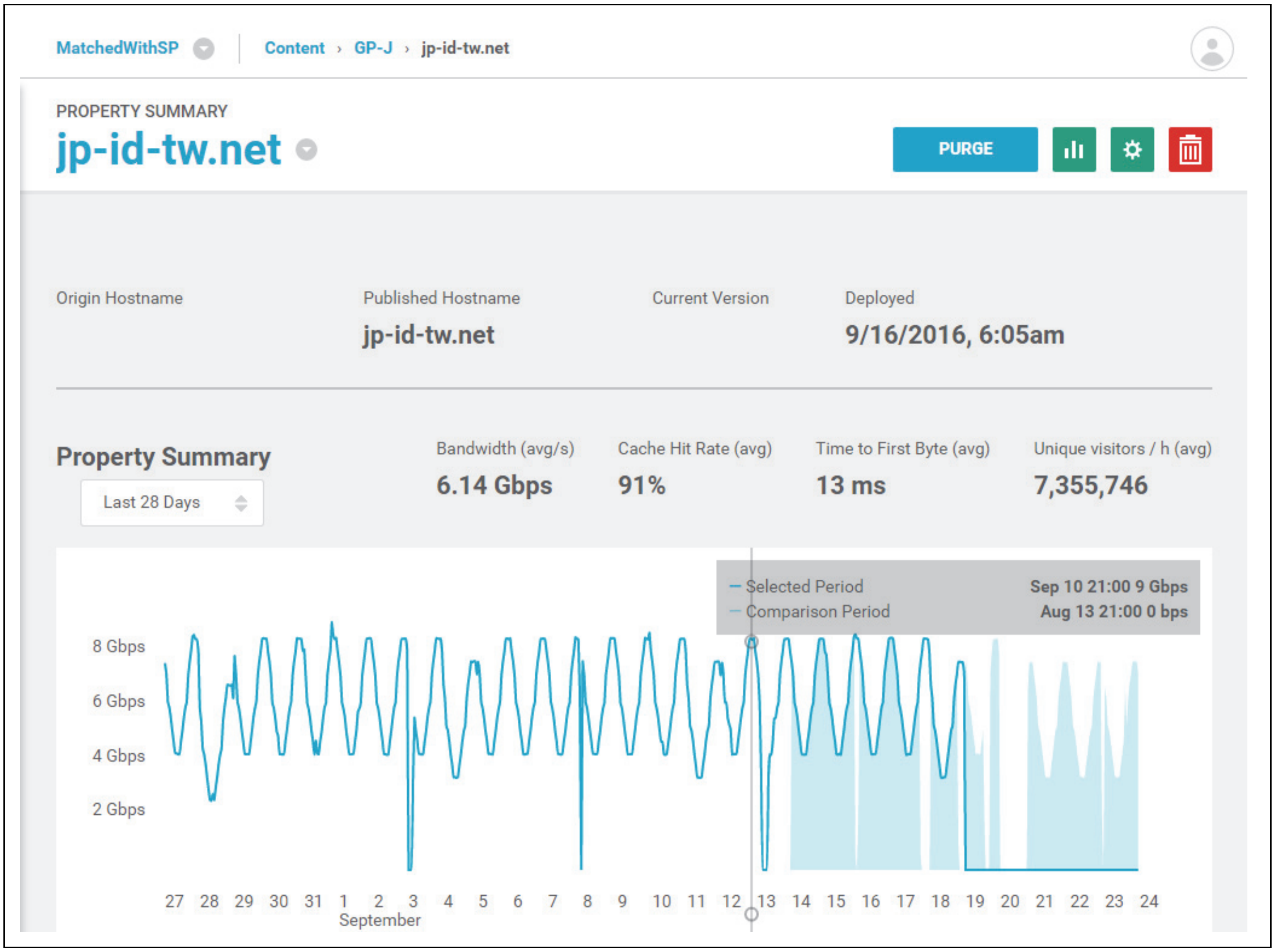
Deleting a Property

Only Users with an Admin Role can delete Properties. For more information on User Roles see "Understanding User Roles and Permissions".

To delete a Property.

1. Navigate to a page where you can view the desired Property.
2. Click the Configure (gear) icon for the Property. The Property Summary page displays (Figure 7-10).

Figure 7-10: Property Summary Page



3. Click the Delete (trash) icon.
4. Confirm your selection to complete the operation.

Chapter 8
Managing Cache Content

Policies enable you to control content caching for a specific Property. You can specify conditions associated with Property content, and the actions you want UDN to take when those conditions are met. Cache Control rules defined in the Portal are pushed out to the UDN production environment.

For greater content caching control, a single Policy can include multiple match conditions and multiple actions. Note that the actions associated with a Policy Rule are not triggered unless the requested content meets ALL conditions specified for that rule.

For example, if you wanted to perform a specific action if a query string was part of the URL, then you would specify the query string and select Exists. Then you would choose the appropriate action to take when this query string is present. For example, you could specify that the cache freshness value is no-store when in the presence of a particular name-value pairing in the query string.

This chapter contains the following sections:

- "Managing Caching Policies"
- "Purging Cache Content"

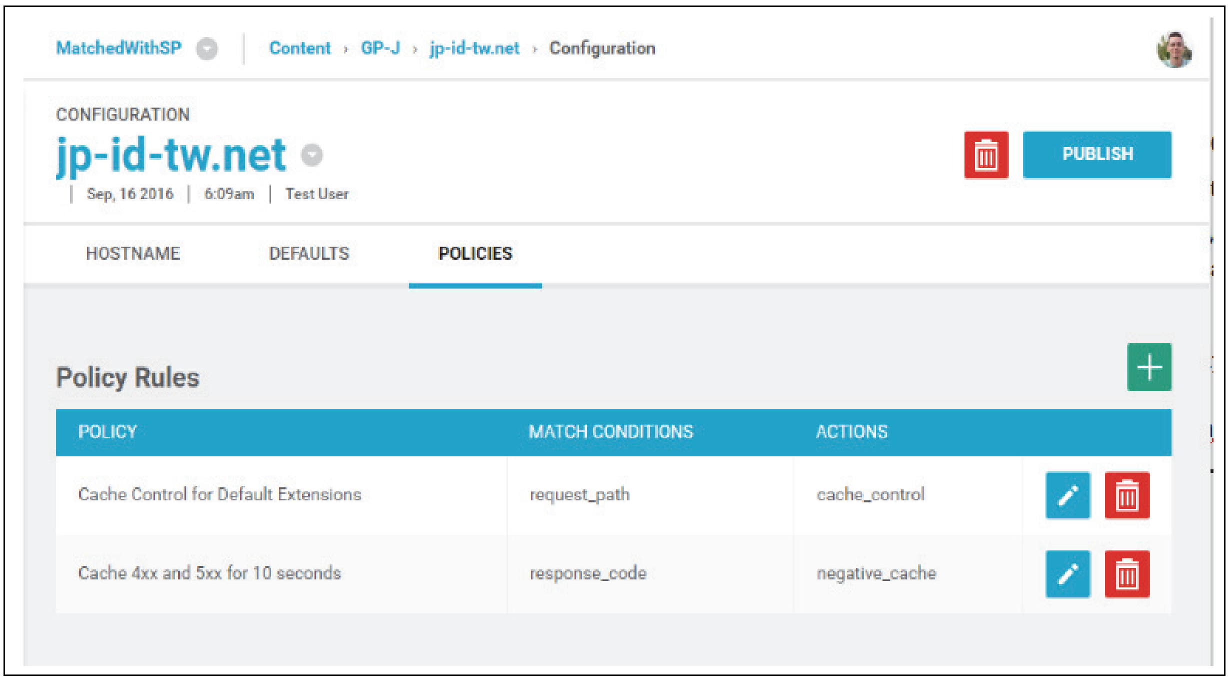
Managing Caching Policies

A policy is a specific action you want the UDN system to take when it encounters a particular set of circumstances. You can define policy rules in the Portal to specify these circumstances, and what you want the cache to do when they occur.

To manage policies:

1. Navigate to the summary page for the desired Account.
2. Click the Starburst for the Group to which the desired Property belongs.
   The Group associated with that Property displays.
3. Hover over the Starburst for the desired Property until the Configure icon displays. 
4. Click the Configure icon. The Property Configuration page displays.
5. Click the Policies tab. A list of current Policy Rules displays in table form.

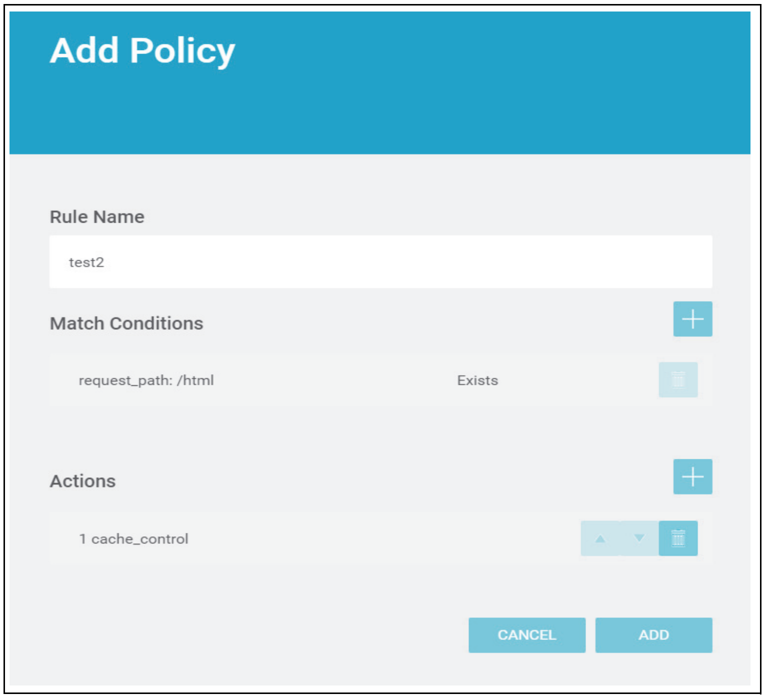
Figure 8-1: Property Configuration: Policies Tab



6. Do one of the following:
   - To add a new policy, click the Add (+) icon.
   - To modify an existing policy, locate the policy in the table and click Edit on that row.

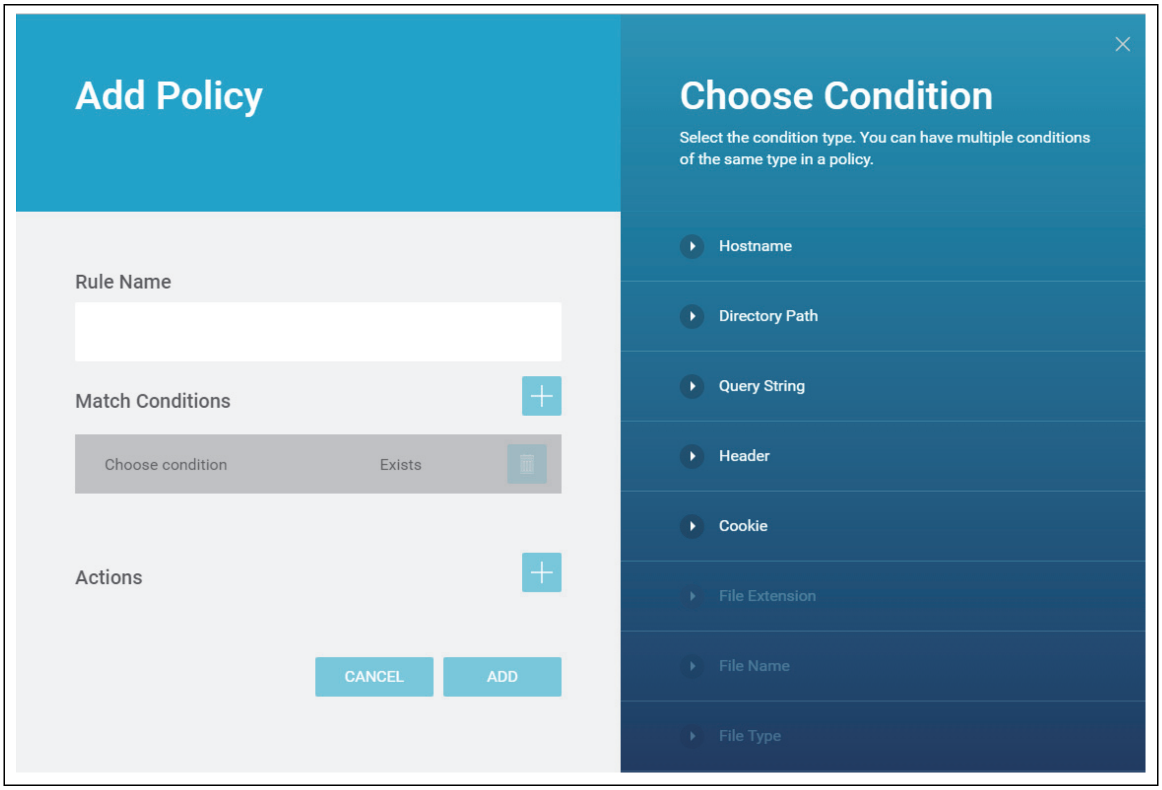
   The Add or Edit Policy dialog box displays.

Figure 8-2: Add Policy Screen



7. Specify a name for the Rule you are adding to the Policy.
8. To specify the Match Condition for this Rule:
    a. Click the Add (+) icon to the right of the Match Conditions label. The Choose Condition pane displays.

Figure 8-3: Add Policy: Choose Condition Panel



b. Click to select the condition you want associated with this rule. You can specify conditions associated with a Hostname, Directory Path, Query String, Header, or Cookie.

c. Enter the match criteria required for the condition associated with this policy rule.
When you define a condition, for each condition type, you must indicate the name (text) the system will search for, and under what conditions you want the system to trigger the policy.

Table 8-1: Specifying Policy Conditions

Condition Type	Match Types
Hostname	Does Not Exist
Directory Path	Does Not Exist
Query String	Does Not Exist, Contains, Does Not Contain
Header	Does Not Exist, Contains, Does Not Contain
Cookie	Does Not Exist, Contains, Does Not Contain

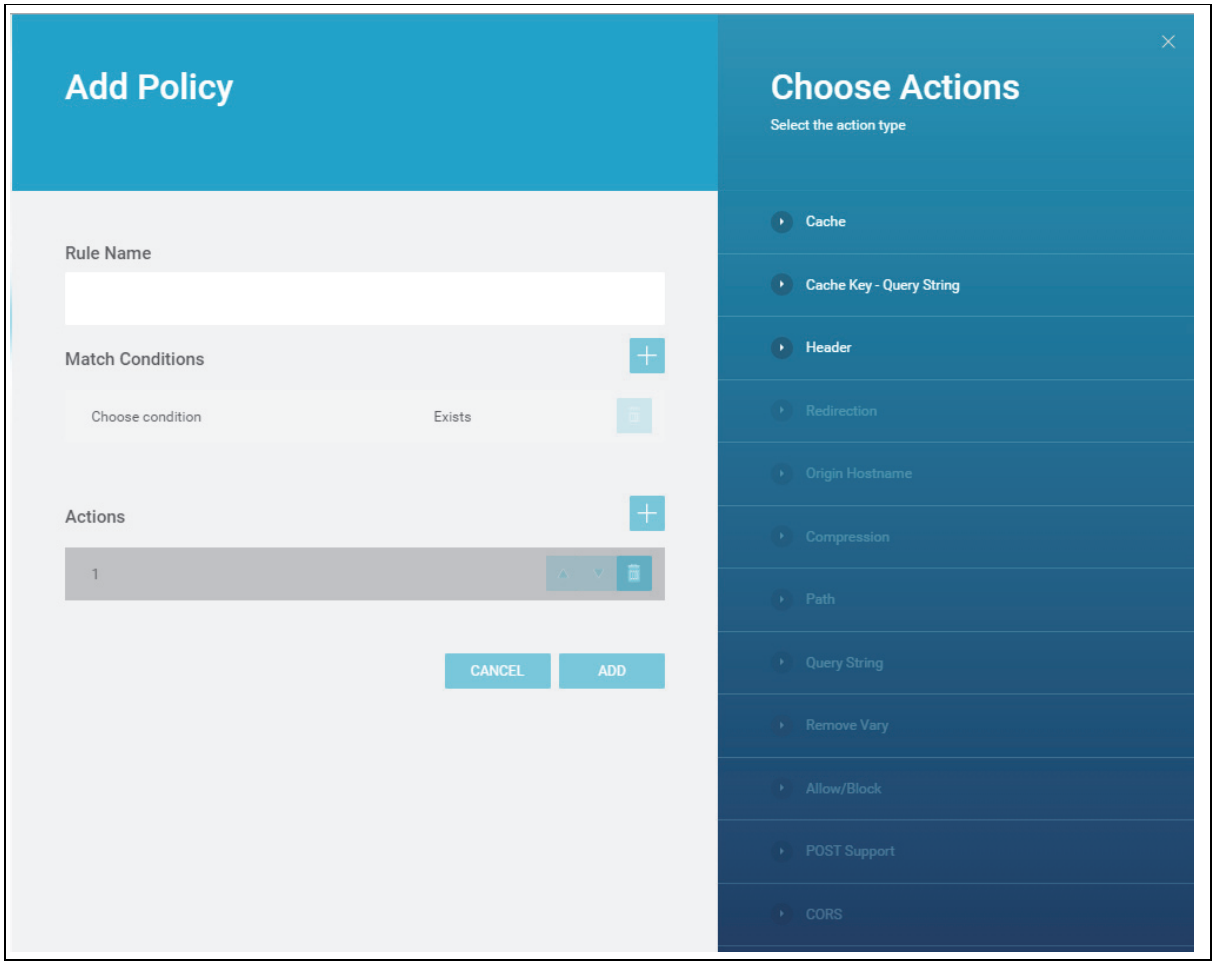
a. When finished, click Save Match.

b. Create additional matches, if needed, for this Policy Rule.

9. To specify the Action the system will take when the match condition is met:

   a. Click the Add (+) icon to the right of the Actions label. The Choose Action pane displays.

Figure 8-4: Policy Rule: Choose Action Pane



b. Select the Action Type you want associated with this rule. This selection specifies the type of action you want the UDN system to take when the match conditions are met. You can select Cache, Cache Key - Query String, or Header.

c. Enter the caching action you want taken.

d. When finished click Save Action.

e. If you wish, you may specify additional actions that will trigger when this Policy Rule applies.

10. When finished specifying information for this rule, click Add.

11. When you have finished adding policies, if you wish to publish your policy changes to the server(s) associated with this Property, click Publish at the top of the page.

Purging Cache Content

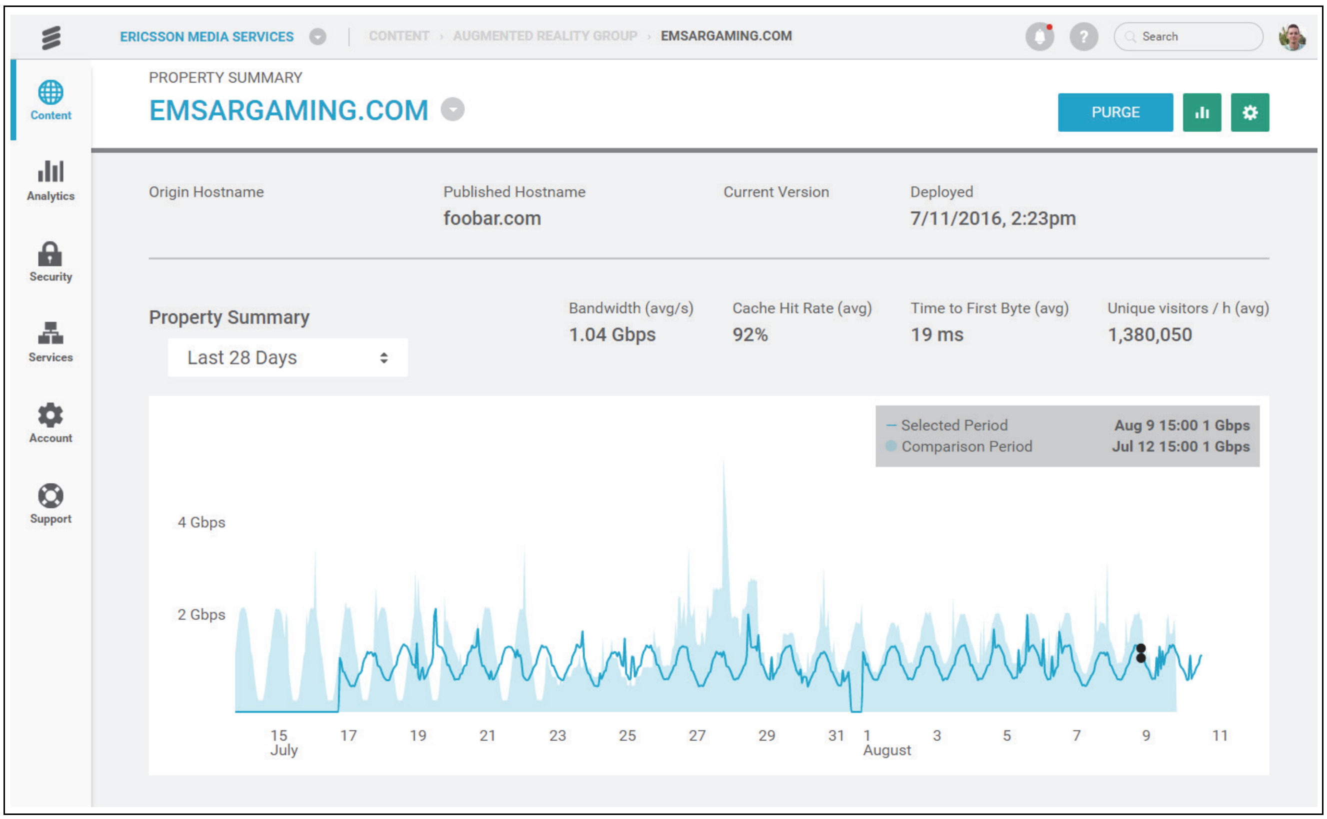
UDN will cache an asset until the asset's time-to-live (TTL) expires. After the asset's TTL expires, when a client requests the asset from the edge node, the edge node will retrieve a new version of the asset to serve the client request and refresh the cache.

Sometimes you may wish to purge cached content from a Property and force that Property to retrieve new assets. This might be due to updates to your web application, or to quickly update assets that contain incorrect information.

To purge content from a Property:

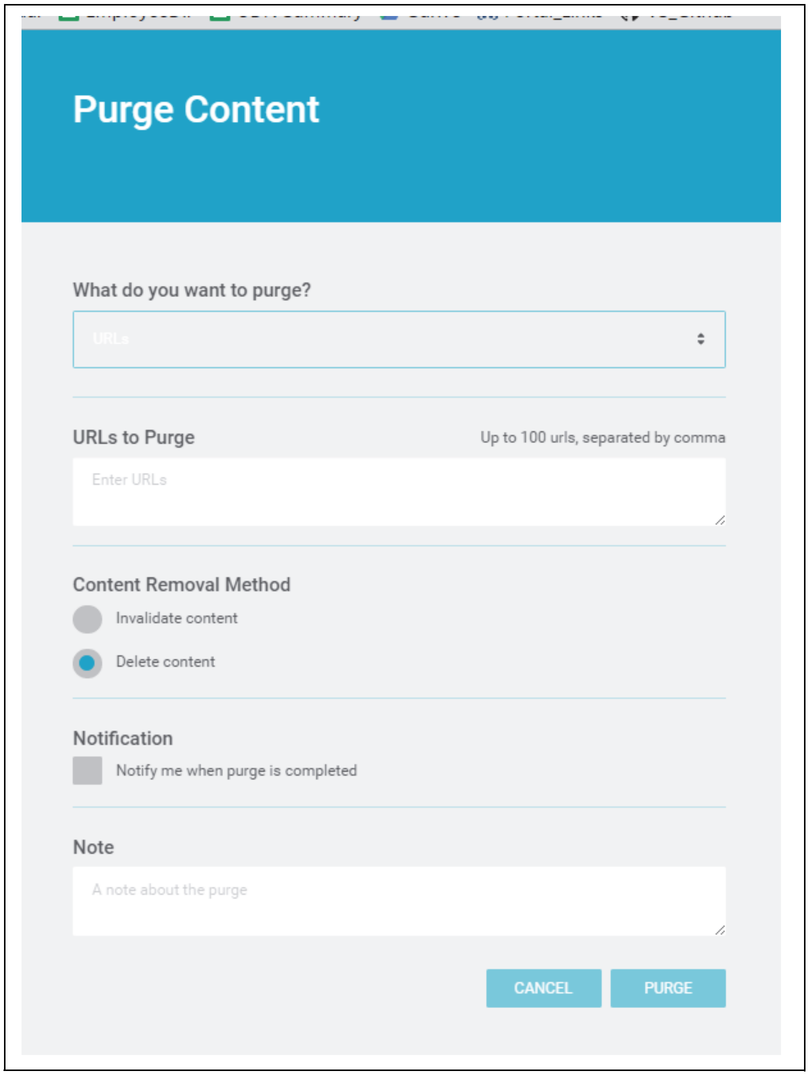
1. Navigate to the summary page for the desired Account.
2. Select the Group associated with the Property whose cache you want to purge. The Properties associated with that Group display.
3. Click the desired Property to display a Property Summary.

Figure 8-5: Property Summary Page



4. Click Purge at the top of the page. The Purge Content pane displays.

Figure 8-6: Purge Content



5. Specify the content you want to purge. Choose one of the following:
   - URLs
   - Directories

> NOTE
>
> Purging based on specified Hostnames or Entire Group will be supported in a future version.

6. If you choose to purge URLs, do the following:
   a. Enter one or more URLs to purge, separated by commas.
   b. Select the Content Removal Method. Choosing Invalidate makes the content unavailable, but does not remove it from the cache. Choosing Delete both makes the content unavailable and removes it from the cache.
   c. If desired, you can choose to be notified when the purge is complete.
   d. You may add a note about this purge for future reference.

e. When finished, click Purge.

7. If you choose to purge Directories, do the following:

   a. Enter one or more Directories to purge, separated by commas.

   b. Select the Content Removal Method. Choosing Invalidate makes the content unavailable, but does not remove it from the cache. Choosing Delete both makes the content unavailable and removes it from the cache.

   c. If desired, you can choose to be notified when the purge is complete.

   d. You may add a note about this purge for future reference.

   e. When finished, click Purge.

Chapter 9
Loading SSL Certificates

In order to support HTTPS traffic, the UDN Portal needs access to SSL Certificates.

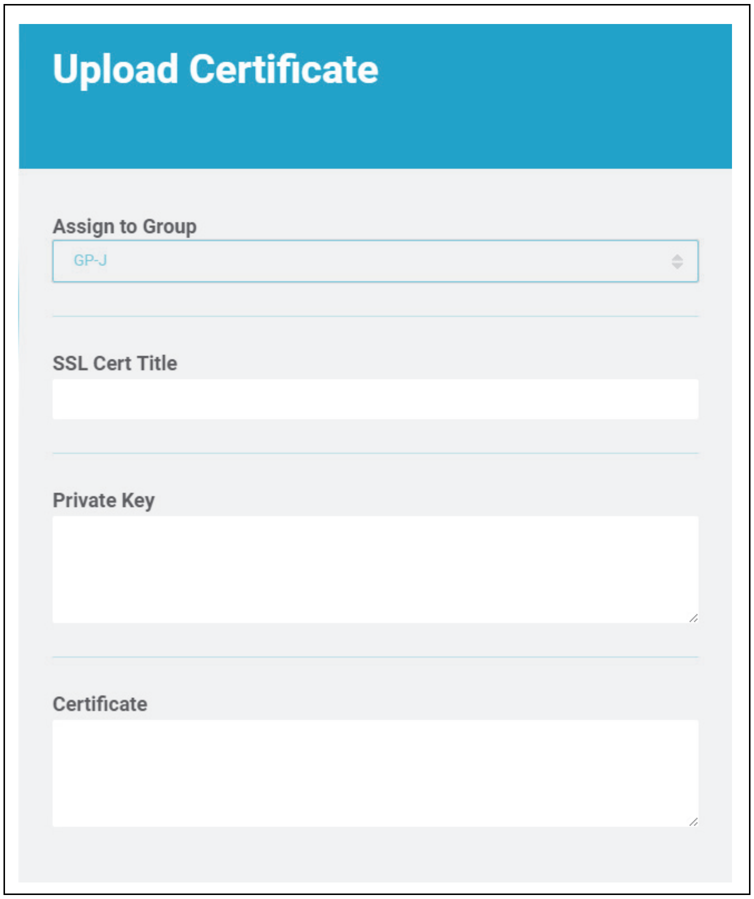
To load SSL certificates:

1. Navigate to the Group to which you want to add the SSL Certificate.
2. Click the Security icon in the left navigation bar.
3. The Security page displays with the SSL Certificate tab selected (Figure 9-1).

Figure 9-1: Security Page

4. To add an SSL Certificate, click the Add (+) icon.
5. The Upload Certificate pane displays (Figure 9-2).

Figure 9-2: Upload Certificate



6. Enter the certificate information as follows:
   a. Enter the Title for the SSL Certificate.
   b. Copy and paste the Private Key associated with the Certificate.
   c. Enter the Certificate itself.
7. When finished, click Save.

Chapter 10
Accessing Support Resources

The Support page of the Portal provides access to the ZenDesk ticketing application. it also provides access to Portal documentation. This chapter contains the following sections:

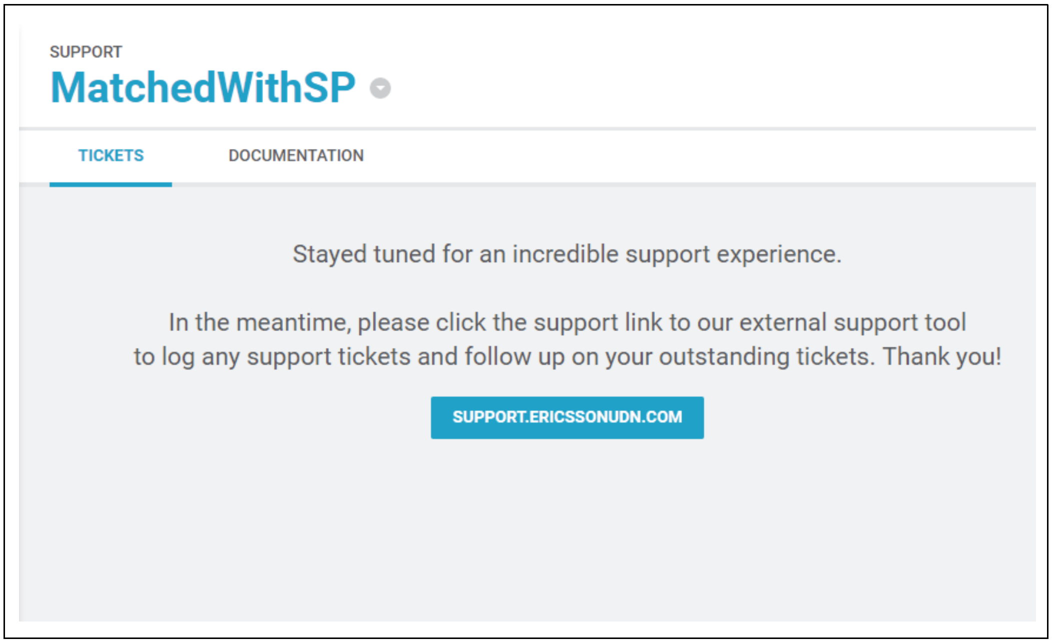
- "Accessing Support"
- "Accessing Documentation"

Accessing Support

To access Support:

1. Click the Support icon on the left navigation bar. the Support page displays (Figure 10-1).

Figure 10-1: Support: Tickets Tab



2. To access the Ericsson UDN Support Site, click the SUPPORT.ERICSSONUDN.COM button. The link will bring you to the UDN Support site. The site provides links to helpful UDN information including Frequently Asked Questions.
3. To Submit a Request for assistance, click the Submit a Request link in the upper right corner of the page. The Submit a Request page displays.
4. To file a ticket, select UDN Support Ticket.
   a. Enter the following information for your request:
      - Subject: Enter a title for your ticket briefly describing the current issue.
      - Description: Enter a description of your current issue or need.
      - Priority: Select a priority for your issue.
      - Type: Select the issue Type (Question, Incident, Problem, Task, or Integration)
      - Service Type: Specify the Service Type associated with your request.
      - Attachments: Add any attachments that you feel would benefit the support effort.

   b. When finished, click Submit.
5. To make a change request, select UDN Change Request
   a. Enter the following information for your request:
      - Subject: Enter a title for your ticket briefly describing the current issue.
      - Description: Enter a description of your current issue or need.

- Change Type: Specify whether this is a normal, standard, or emergency change.
- Service Type: Specify the service type associated with your request.
- Change Risk: Specify the risk level of the change.
- Change Impact: Select the impact of the change on your system.
- Attachments: Add any attachments that you feel would benefit the support effort.

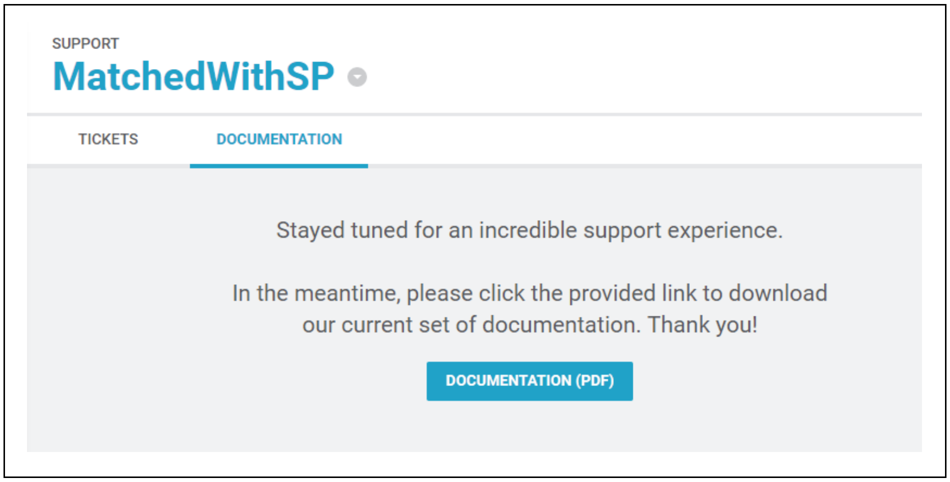
b. When finished, click Submit.

Accessing Documentation

To access the Portal User Guide associated with your User Role:

1. Click the Support icon on the left navigation bar.
2. Click the Documentation tab ().

Figure 10-2: Support: Tickets Tab



3. Click the DOCUMENTATION button. The user guide associated with your current User Roles launches as a PDF file.

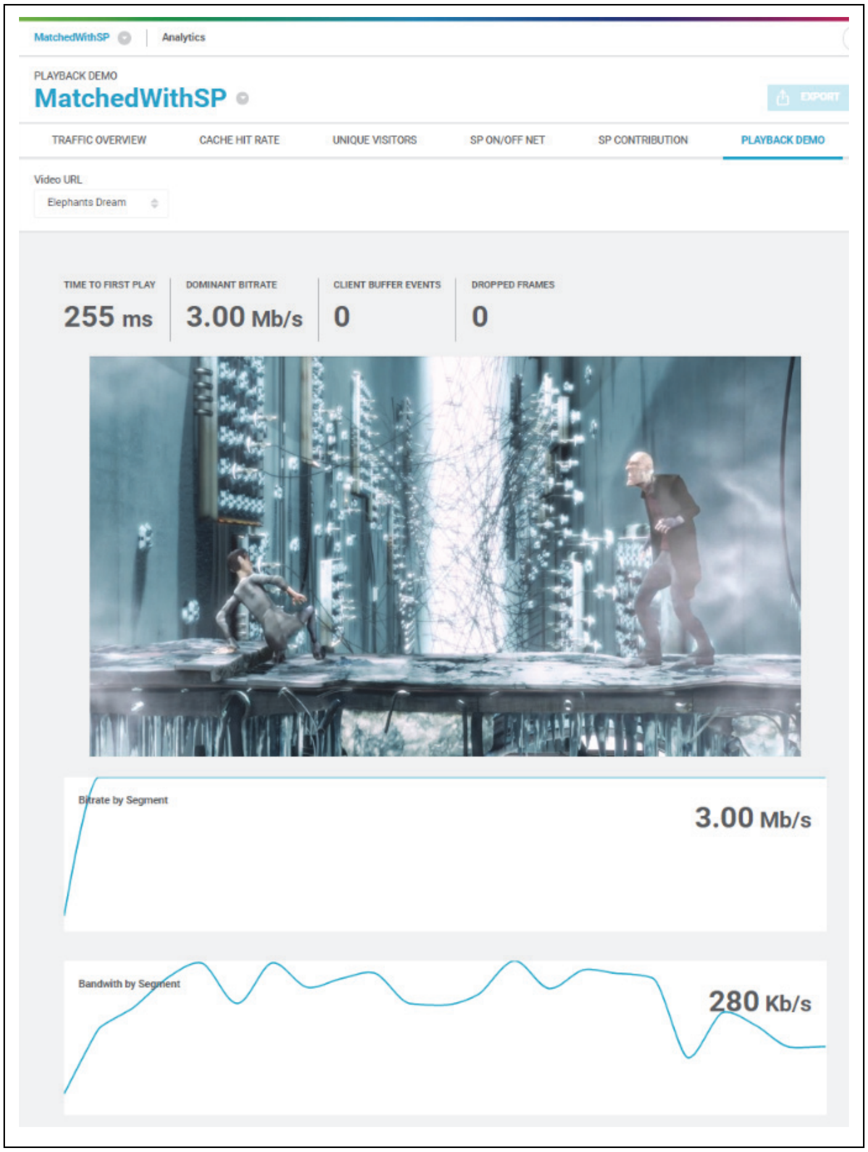
Chapter 11
Playback Demonstration

The Portal also provides an example of content playback which can be used for demonstration purposes. This page allows a demonstration of HLS video being played over the UDN. You can choose from one of several15-minute videos to display. For consistency, each video was encoded with the same specifications.

To access this demonstration:

1. Click the Analytics icon on the left navigation bar.
2. Click the Playback Demo tab. The playback demonstration begins.
3. You can select from a list of several videos. When you select a video, the video plays, displaying key performance indicators. The video window is followed by two charts. The first displays Bitrate by Segment, and the second displays Bandwidth by Segment.

Figure 11-1: Playback Demonstration



Several Key Performance Indicators for this playback demonstration are available:

- Time to First Play - This metric tracks the amount of elapsed time between when a request to play the video has been sent to the time in which the required number of frames have been transferred to fill the player's playback buffer and the system actually begins to render the video.
- Dominant Bitrate - Adjustable Bit Rate (ABR) video allows the player to request playback at different bit rates to compensate for various network conditions. The Dominant bit rate shows the bit rate that is being played the most. The actual value is dependent on the maximum bit rates at which the video was created to play. For this demo, the maximum bitrate is 3.8Mbps, with other bit rates at 3.0Mbps, 1.8Mbps, 900Kbps, and 500 Kbps.
- Client Buffer Events - This metric shows the number of times the player's playback buffer was exceeded, which cause the video to pause while more data was being requested.
- Dropped Frames - This metric shows the number of Frames that were dropped. Dropping a few frames is typically not noticeable but is an indication of poor network performance as some frames are not received or are received too late to be rendered.