Avaya Solution & Interoperability Test Lab

Application Notes for Bristol Capital Traffic Study Service with Avaya Aura™ Communication Manager – Issue 1.0

Abstract

These Application Notes describe the steps required for the Bristol Capital Traffic Study Service to successfully interoperate with Avaya Aura™ Communication Manager. The Bristol Capital Traffic Study is a PBX management service that uses the Avaya System Administrator Terminal interface to obtain traffic related data and provide analysis report on the performance, resource traffic, and resource sufficiency of Avaya Aura™ Communication Manager.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

©2010 Avaya Inc. All Rights Reserved.

1. Introduction

These Application Notes describe the steps required for the Bristol Capital Traffic Study Service to successfully interoperate with Avaya Aura™ Communication Manager. The Bristol Capital Traffic Study is a PBX management service that uses the Avaya System Administrator Terminal (SAT) interface to obtain traffic related data and provide analysis report on the performance, resource traffic, and resource sufficiency of Avaya Aura™ Communication Manager.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the proper collection and reporting of traffic and resource related data including attendant measurements, call rate measurements, port network measurements, load balancing measurements, tone receiver measurement, trunk group measurements, occupancy measurements, DSP resource measurements, route patterns, configuration, locations, trunk groups, cabinets, media gateways, IP network regions, and IP codec sets.

The serviceability testing focused on verifying the ability of the Bristol Capital Traffic Study service to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable and restarting the SAT session with Avaya Aura™ Communication Manager.

1.2. Support

Technical support on the Bristol Capital Traffic Study service can be obtained through the following:

- **Phone:** (201) 476-0600
- **Email:** support@infoplusonline.com

©2010 Avaya Inc. All Rights Reserved.

2. Reference Configuration

As shown in **Figure 1**, the Bristol Capital Traffic Study service consists of a server that connects remotely to Avaya Aura™ Communication Manager via the SAT interface, and uses a subset of the SAT commands to collect traffic and resource related data. The collected data are passed on to the Bristol Capital Central Database for analysis and reporting.

The remote connectivity between the Bristol Capital Traffic Study service and Avaya Aura™ Communication Manager can be accomplished using either modem dialup to the Avaya Server Availability Management Processor (SAMP) interface, VPN tunneling, or direct access from the public network. In the compliance testing, the direct access method from the public network was used.

In the direct access method via the public network, a spare and existing C-LAN circuit pack from Avaya Aura™ Communication Manager was connected to the public network, with the corporate firewall configured to allow traffic from the public IP address of the Bristol Capital Traffic Study server. The public IP address of the C-LAN circuit pack and the SAT login credentials were passed on to Bristol Capital.

Note that the corporate firewall configuration is outside the scope of these Application Notes, and will not be described.

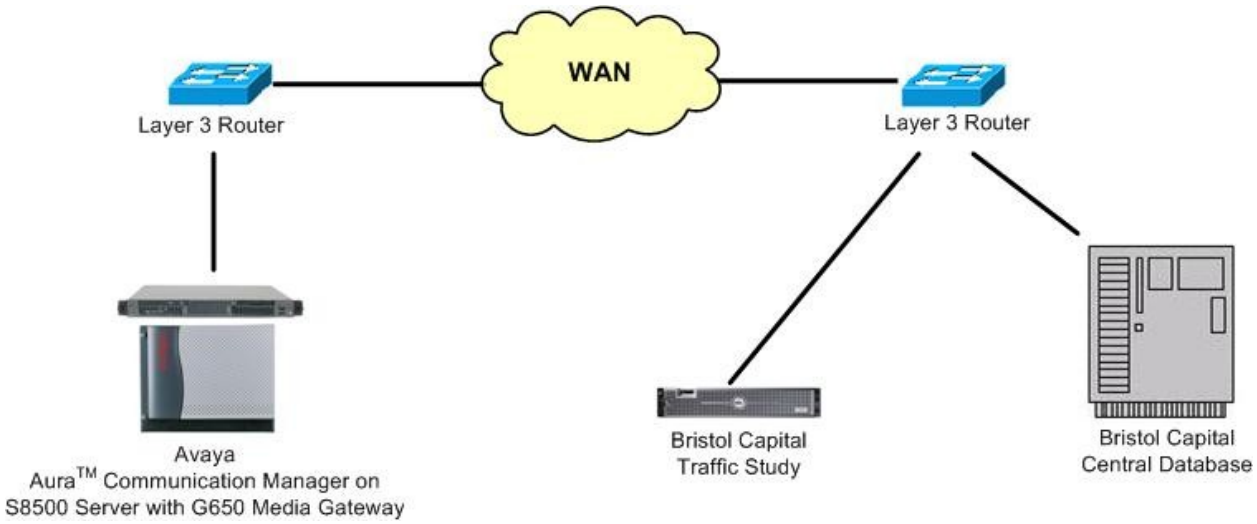


Figure 1: Bristol Capital Traffic Study Service with Avaya Aura™ Communication Manager

©2010 Avaya Inc. All Rights Reserved.

3. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment	Software
Avaya Aura™ Communication Manager on Avaya S8500 Server	R015x.02.0.947.3
Avaya G650 Media Gateway • TN799DP C-LAN Circuit Pack	 HW01 FW032
Bristol Capital Traffic Study	Build 8026

©2010 Avaya Inc. All Rights Reserved.

4. Configure Avaya Aura™ Communication Manager

This section provides the procedures for configuring Avaya Aura™ Communication Manager. The procedures include the following areas:

- Obtain node names
- Administer node names
- Administer IP services

4.1. Obtain Node Names

Log in to the SAT with proper credentials. Use the "display ip-interface x" command, where "x" is the location of an existing C-LAN circuit pack that will be used to connect to the public network. Note the values in the **Node Name** and **Gateway Node Name** fields.

```
display ip-interface 1a05                                    Page   1 of   3
                                IP INTERFACES


                 Type: C-LAN
                 Slot: 01A05        Target socket load and Warning level: 400
          Code/Suffix: TN799  D           Receive Buffer TCP Window Size: 8320
      Enable Interface? y                          Allow H.323 Endpoints? y
                 VLAN: n                            Allow H.248 Gateways? y
        Network Region: 2                             Gatekeeper Priority: 5



                                IPV4 PARAMETERS
            Node Name: Clan-2
          Subnet Mask: /24
     Gateway Node Name: Gateway002

         Ethernet Link: 2
         Network uses 1's for Broadcast Addresses? Y
```


©2010 Avaya Inc. All Rights Reserved.

4.2. Administer Node Names

Use the "change node-names ip" command to modify the IP address of the C-LAN circuit pack from **Section 4.1**, and the IP address of the associated gateway. In this case, the C-LAN node name is "Clan-2", and the associated gateway node name is "Gateway002". Enter the appropriate public IP addresses for these two entries to match the network configuration. The public IP addresses for the entries are masked in the screen below for privacy.

```
change node-names ip                                          Page   1 of   2
                                IP NODE NAMES
    Name              IP Address
AES-Test            10.32.32.20
Annc-1              10.32.32.14
CDR-2nd             192.168.1.12
CDR-Metropolis      192.2.5.25
Clan-1              10.32.32.12
Clan-2              xxx.xxx.xxx.xxx
G150-Lan2           192.10.20.1
G350-S8300          10.32.38.10
Gateway001          10.32.32.1
Gateway002          yyy.yyy.yyy.yyy
IPO500              10.32.33.10
Prowler-1           10.32.32.13
Prowler-2           12.184.9.168
S8300-G250          10.10.1.5
```

4.3. Administer IP Services

Use the "change ip-services" command to add an entry to allow SAT access via the public facing C-LAN circuit pack. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Service Type:** "SAT"
- **Enabled:** "y"
- **Local Node:** Node name of the public facing C-LAN circuit pack from **Section 4.2**.
- **Local Port:** "5023"
- **Remote Node:** "any"
- **Remote Port:** "0"

```
change ip-services                                            Page   1 of   4

                                IP SERVICES
 Service     Enabled     Local        Local       Remote      Remote
  Type                   Node         Port        Node        Port
CDR1                 Clan-1           0       TestSite        9002
CDR2                 Clan-1           0       CDR-2nd         9004
AESVCS        y      Clan-1           8765
SAT           y      Clan-2           5023    any             0
```


©2010 Avaya Inc. All Rights Reserved.

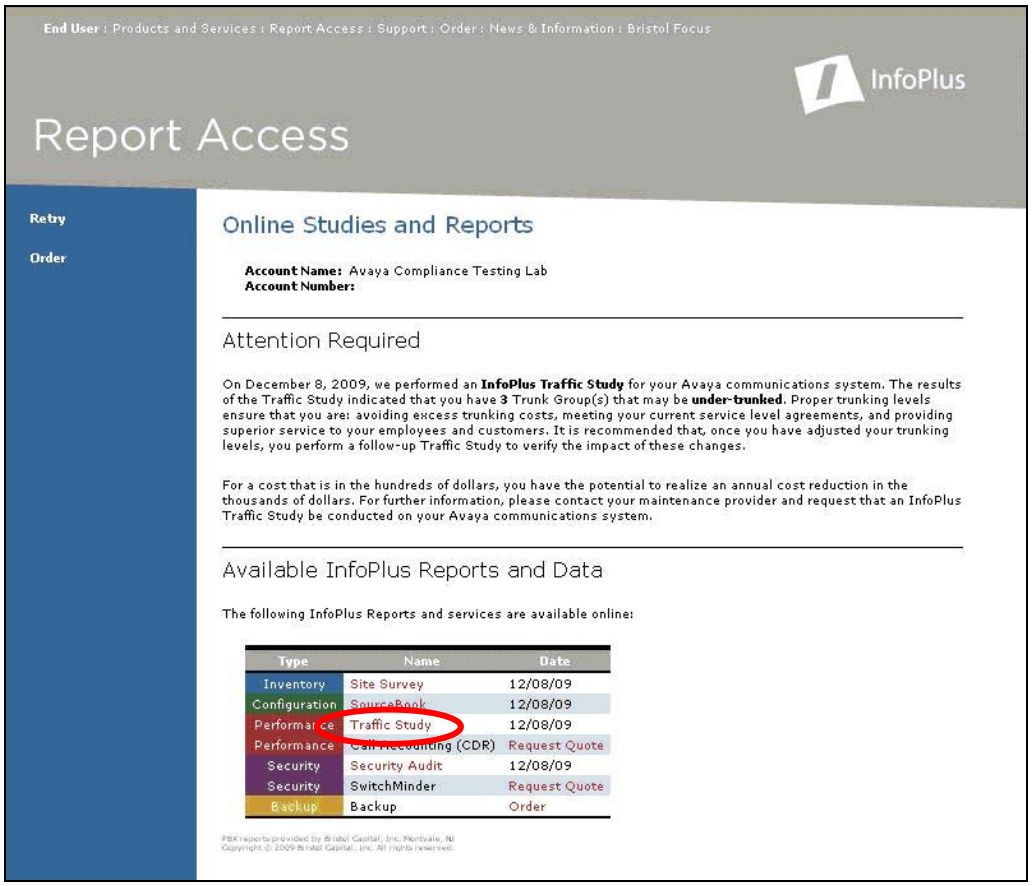
5. Navigate Bristol Capital Traffic Study Report

This section provides the procedures for navigating the Bristol Capital Traffic Study report. The procedures include the following areas:

- Access report
- Review processor occupancy
- Review networks
- Review service denials
- Review DSP resources
- Review trunking
- Review console activity
- Review console performance
- Review summary

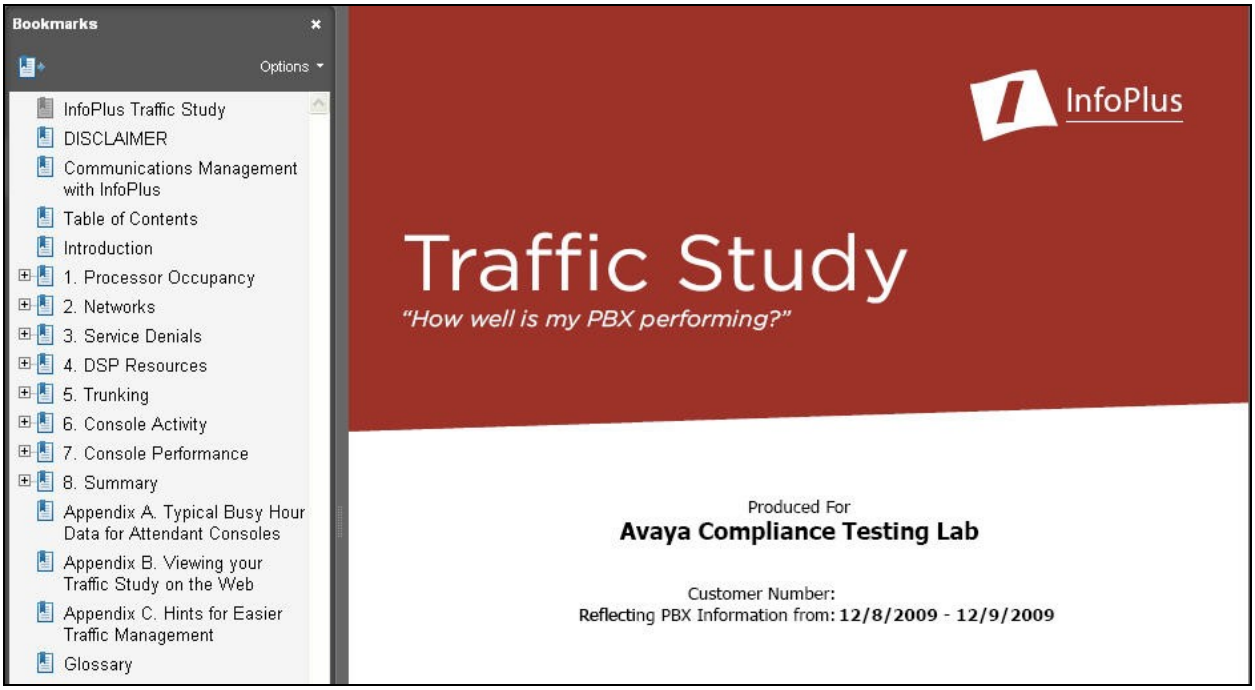
5.1. Access Report

At the conclusion of the traffic and resource data collection and analysis, the Bristol Capital Traffic Study service will send an automatic email notification to the customer, including a URL to access the online report. From an Internet browser window, enter the URL from the email notification to display the **Report Access** screen below. Select **Traffic Study**.



©2010 Avaya Inc. All Rights Reserved.

The **Traffic Study** report is displayed.



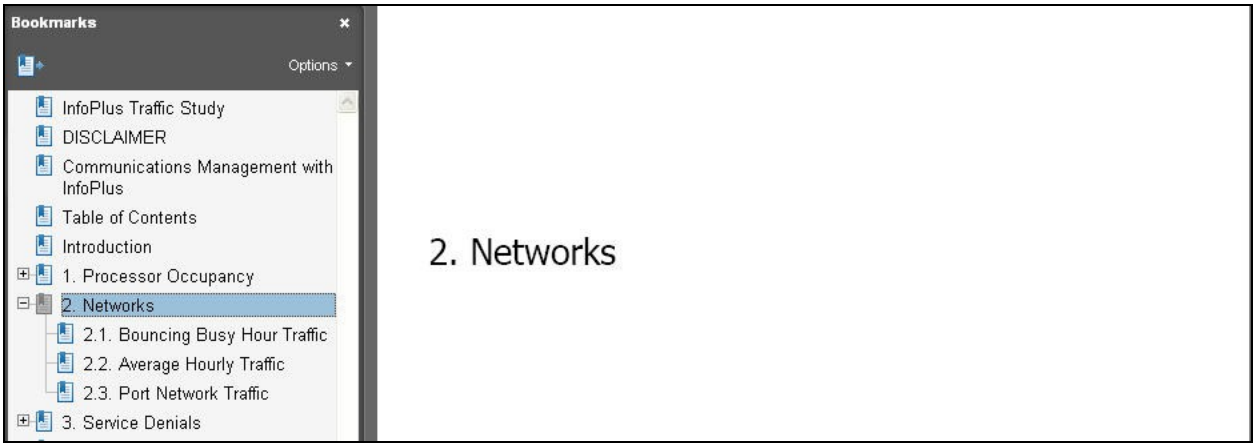
5.2. Review Processor Occupancy

Select **Processor Occupancy** from the left pane, to display the **Processor Occupancy** screen. This section provides graphical views of the switch processor utilization.

©2010 Avaya Inc. All Rights Reserved.

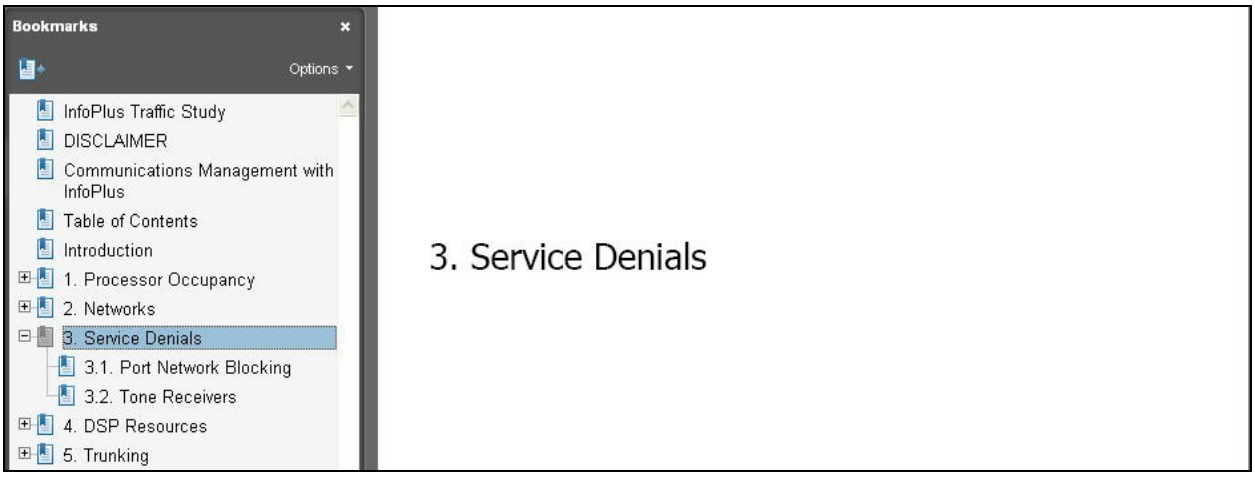
5.3. Review Networks

Select **Networks** from the left pane, to display the **Networks** section. This section provides another view of the system utilization in terms of busy hour traffic, average hourly traffic, and port network traffic.



5.4. Review Service Denials

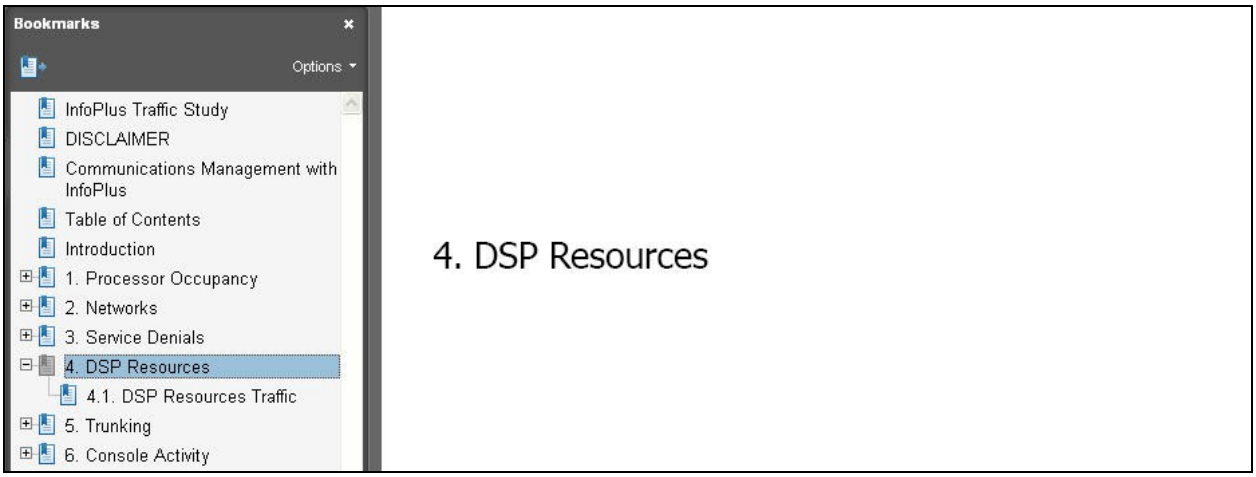
Select **Service Denials** from the left pane, to display the **Service Denials** section. This section provides details on any system blockage in terms of port networks and tone receivers.



©2010 Avaya Inc. All Rights Reserved.

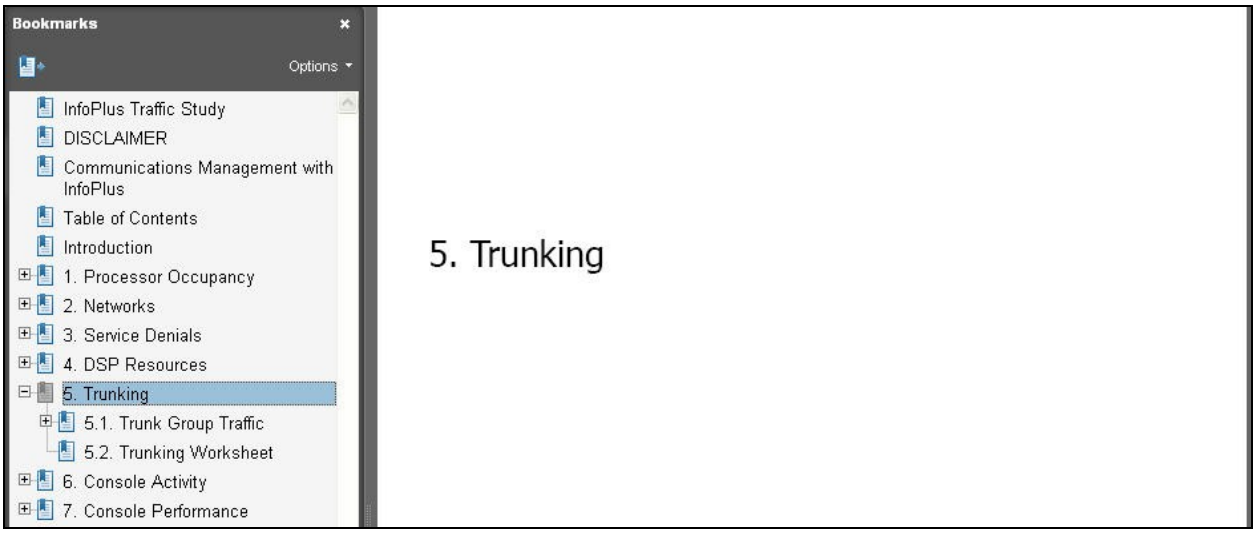
5.5. Review DSP Resources

Select **DSP Resources** from the left pane, to display the **DSP Resources** section. This section provides graphical views of average daily traffic by IP network regions.



5.6. Review Trunking

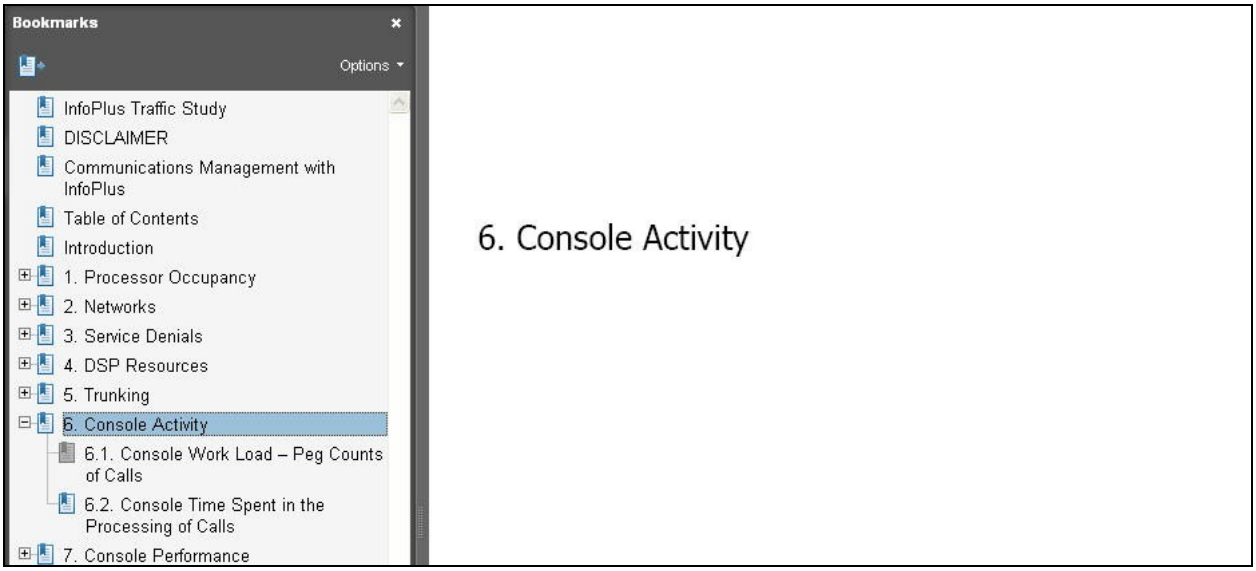
Select **Trunking** from the left pane, to display the **Trunking** section. This section provides detailed analysis of trunk group traffic, along with potential recommendations in the form of a trunking worksheet.



©2010 Avaya Inc. All Rights Reserved.

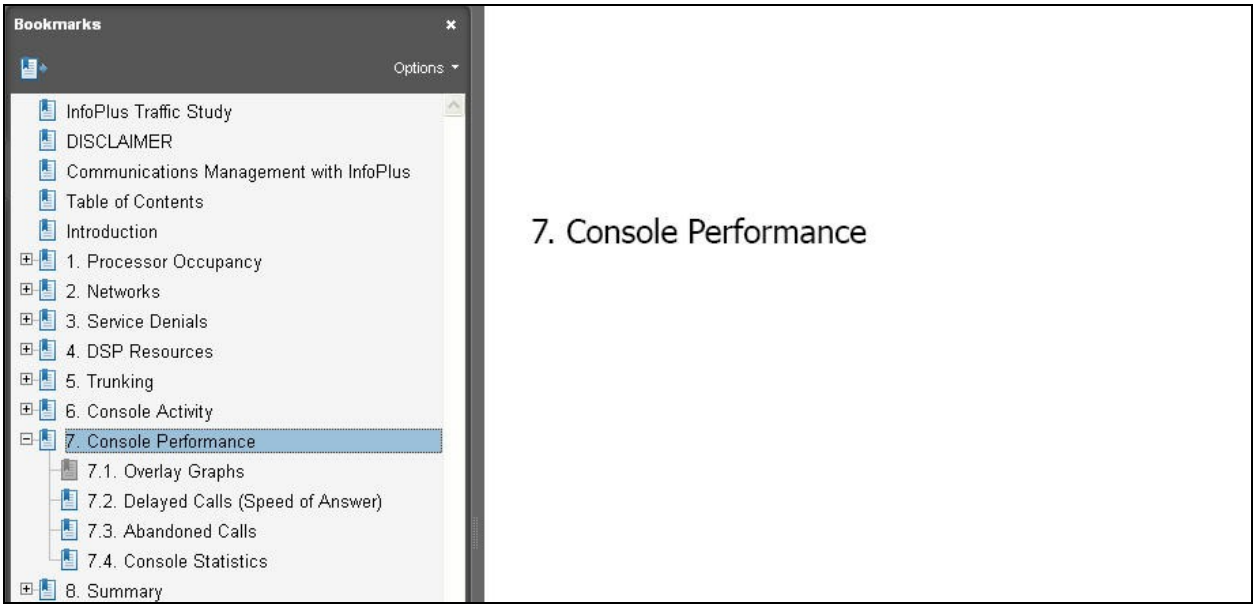
5.7. Review Console Activity

Select **Console Activity** from the left pane, to display the **Console Activity** section. This section provides graphical views of the console call counts and console call durations.



5.8. Review Console Performance

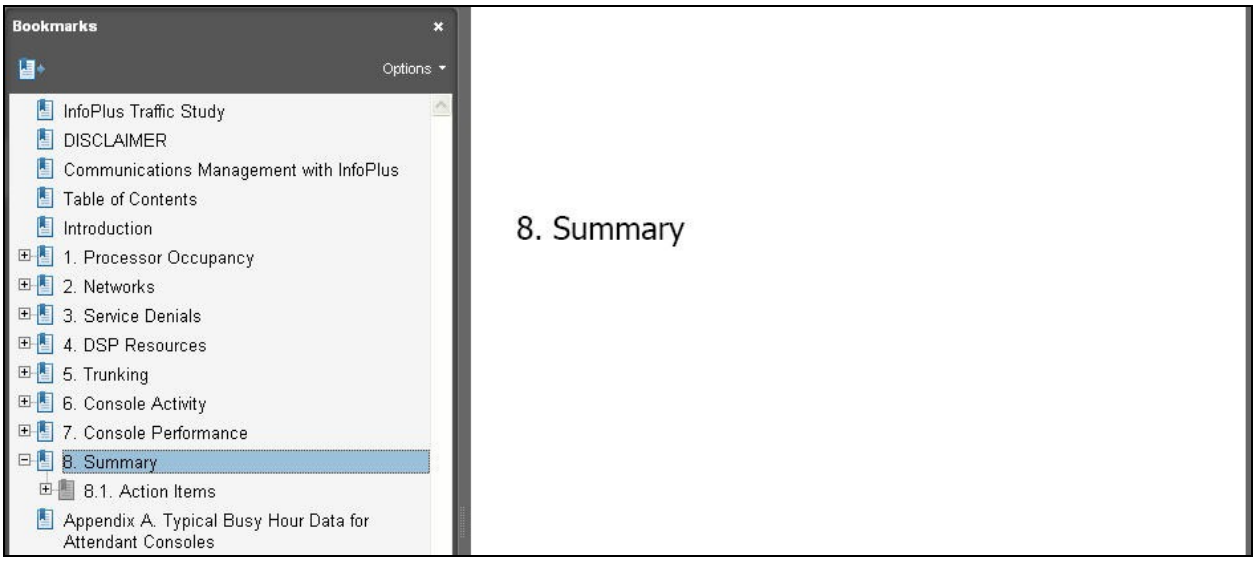
Select **Console Performance** from the left pane, to display the **Console Performance** section. This section provides details on the console performance, including overlay graphs, speed of answer, abandoned calls, and console statistics.



©2010 Avaya Inc. All Rights Reserved.

5.9. Review Summary

Select **Summary** from the left pane, to display the **Summary** section. This section provides a summary of raised issues, such as non-utilized trunks and over/under utilized trunks.



6. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Traffic and resource related data were manually configured on Avaya Aura™ Communication Manager, and automatically collected by the Bristol Capital Traffic Study service.

The report produced by the Bristol Capital Traffic Study service was reviewed manually and compared with the data on Avaya Aura™ Communication Manager for accurate representation.

All test cases were executed and passed.

7. Conclusion

These Application Notes describe the configuration steps required for the Bristol Capital Traffic Study service to successfully interoperate with Avaya Aura™ Communication Manager.

8. Additional References

This section references the product documentation relevant to these Application Notes.

1. *Administrator Guide for Avaya Aura™ Communication Manager*, Document 03-300509, Issue 5.0, Release 5.2, May 2009, available at http://support.avaya.com.

2. *Avaya Traffic Study Demo*, available at http://www.infoplusonline.com.

©2010 Avaya Inc. All Rights Reserved.

©2010 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.

©2010 Avaya Inc. All Rights Reserved.