



Interactive Northwest, Inc.
Customer Experience Solutions

ENSURING IDEAL PORT UTILIZATION ON AVAYA AURA® EXPERIENCE PORTAL

WHITE PAPER

ENSURING IDEAL PORT UTILIZATION ON AVAYA AURA® EXPERIENCE PORTAL

INTRODUCTION

Knowing Avaya Aura® Experience Portal (AAEP) port usage during peak periods is the key to determining whether the system is in danger of turning callers away during momentary call spikes. Administrators frequently grapple with questions such as: Is peak traffic threatening availability? Should they increase ports to develop a better comfort margin? If they want to add applications to a system, is the current port capacity sufficient?

When AAEP systems are sold, configuration experts make their best engineering calculations, plan for security, and procure accordingly. It's inherently challenging to determine port capacity before the system is installed and in production, but once the AAEP is up and running, there is no reason not to know exactly how it's performing.

AAEP gathers a wealth of information on the contacts it handles (voice and other media; inbound and outbound) and maintains a database admins can leverage to easily generate and customize reports. Let's look at some of these reports and how they can be used to understand how ports are being used.



STANDARD REPORTS

There are three *Standard* reports that allow admins to query the reporting database by different criteria: *Application*, *Contact*, or *Session*.¹

Each of these has a *Detail* report and a *Summary* Report.

- *Detail* reports are tables listing the selected records and showing the fields specified by the report selection and display criteria.
- *Summary* reports condense the selected records by tallying counts and creating averages, etc.

There are two additional standard reports: *Performance* and *Data Export*.

- *Performance* reports are key to understanding how the AAEP platform resources are being used – more on this shortly.
- *Data Export* exposes lower level detail about applications and some system functions that are not shown in the *Standard* reports. This detail may be useful to application developers or service technicians trying to troubleshoot issues with the system.

Report Name	View Report
Application Summary	
Application Detail	
Contact Summary	
Contact Detail	
Performance	
Session Summary	
Session Detail	
Data Export	

[Help](#)

¹ A Contact in AAEP is an individual interaction stream between the platform and some external entity (e.g., a voice call – inbound or outbound, an email, an SMS, etc.). A Session is the transaction that “surrounds” a Contact. For a simple inbound voice IVR call, a Session contains a single Contact. However, if an application generates a second Contact – a call to an agent for example – that may be conferenced to the first Contact by a voice application, the Session would contain two Contacts. The AAEP collects somewhat different information as part of the Session and Contact records. The two are tied together by a Session ID associated with each Session record and appended to each Contact record.

CUSTOM AND SCHEDULED REPORTS

The other two major report types are *Custom* and *Scheduled*.

Custom reports are templates (query filters and output display formats) that a user creates, names, and saves. A report created in *Standard* is a one-time, on-occurrence event. Given that the interface allows for numerous customizations (the specific report type, the date range, the record selection criteria, etc.) re-creating a specific report each time manually in the *Standard* view can be tedious. That same set of criteria can be specified in *Custom*, given a name, and saved. Now the user simply goes to the *Custom* section and runs the named report. Once *Custom* reports have been created, they can be *Scheduled*.

Scheduled reports run at specified times and can be delivered via email or RSS feed. They can also be “threshold” based, meaning that an admin can set a report to run periodically, but only deliver it if the data exceeds a certain defined threshold. For example, consider an application that tracks system disconnects or caller abandons. If a large number of these events occur in a short time period, it might indicate a problem that needs to be addressed. It is possible to create a *Custom* report for this condition, *Scheduled* with a particular threshold, and have the system send an email message only when the threshold has been met.



USING AAEP REPORTS TO UNDERSTAND PEAK PORT UTILIZATION

How many AAEP ports are being used during a peak busy period?

To answer this question, start with the Performance report:

Performance (Filters)

Use this page to specify the filter criteria for a performance report. A performance report displays vari

Date and Time

Predefined Values All Dates and Times ▾

Last Days ▾

Between

Start Date/Time: 📅

End Date/Time: 📅

Optional Filter [Reset](#)

Media Server: All servers ▾

ep71mpp1

EPM

OK **Cancel** **Help**

The *Performance* report allows the user to query a period of time. Default values are always provided and the three options provided give quite a bit of granularity.

Predefined values are:

- All Dates and Times
- Today
- Yesterday
- This Week
- Last Week
- This Month
- Last Month

The second choice allows admins to select a specific number of “Days” or “Hours,” and the third choice allows for a completely specific reporting period (to the nearest second).



To get started understanding port usage, it is best to choose “All Dates and Times” first. Although it may take longer to generate the report, it will give the best historical view of what occurred and when. Here’s a basic example:

Performance Report

The performance report displays various resource utilization and operational measurements for each media server in the system.

Resource Utilization

[View Summary Graph](#)

Media Server	CPU %		Memory Usage %		Disk Usage %		Port Utilization %			Timeline Graph
	Peak	Average	Peak	Average	Peak	Average	Peak	Average	Details	
ep71mpp1	15	10	20	18	10	10	20	0		

[Help](#)

The report shows server ep71mpp1. In addition to port utilization, the report also has very important information about the loading on each of the servers – showing peak and average usage and utilization values. Disk usage is rarely critical, but CPU and memory should not peak above 60-70 percent and not average above 50-60 percent. If the report shows higher values, the support organization will need to determine whether the system is at risk or still within reasonable limits given specific configuration and usage.

Notice that port utilization is shown as a percentage and not as a port count. The Experience Portal Manager (EPM) distributes port logins uniformly across the Media Processing Platform (MPP) servers so port utilization percentage should be fairly consistent across them for both peak and average values. However, there are other reports that will show exactly how many ports are assigned to each MPP and using that data and the percent utilization, it is possible to compute exactly how many total ports were occupied in peak and average conditions.

Port Utilization Details

Two additional aspects of the *Performance* report will be helpful. Clicking the magnifying glass icon will bring up the detailed view which shows port utilization (first 10 percent, second 10 percent, etc.) giving a view of the amount of time spent at each utilization level. If the most loaded MPP shows port occupancy durations that are very long in the top four deciles (70 percent and greater), the ports are being saturated and callers turned away at certain times. This would indicate a clear need to add ports.

Port Utilization Details

This report displays the amount of time spent at each port utilization level.

Media Server: ep71mpp1

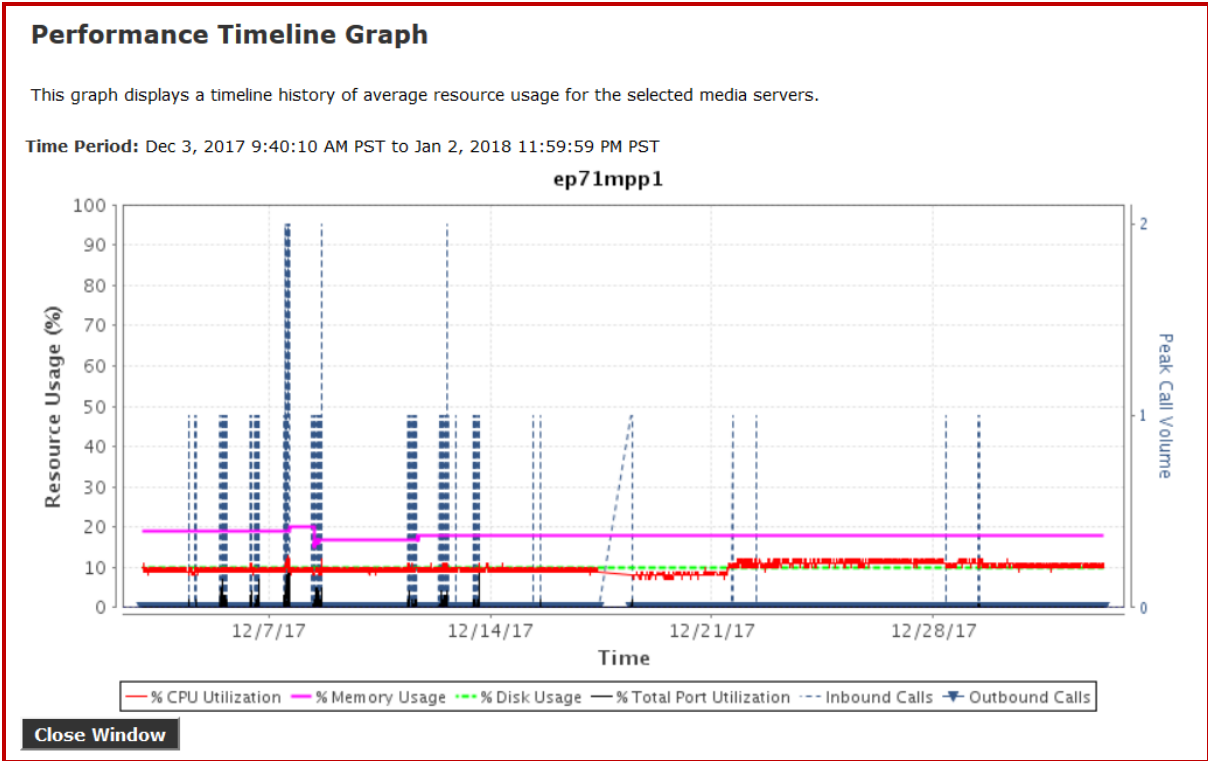
[View Graph](#)

Port Utilization %	Duration
0 - 9	688h 4m (98%)
10 - 19	15h 10m (2%)
20 - 29	54m (0%)
30 - 39	0m (0%)
40 - 49	0m (0%)
50 - 59	0m (0%)
60 - 69	0m (0%)
70 - 79	0m (0%)
80 - 89	0m (0%)
90 - 99	0m (0%)
100	0m (0%)

[Help](#)

Performance Timeline Graph

Clicking the small bar graph icon shows a timeline history of usage. By starting with the entire reporting time period, it is possible to identify periods of very high utilization. Admins can run subsequent reports with shorter time windows for those specific high usage periods, to further understand them.



Contact Summary Report

Once the *Performance* report identifies one or more periods of peak usage, there are several versions of the *Contact Summary* report that can provide valuable additional information.



Contact Summary (Filters)

Use this page to specify the filter criteria for a Contact Summary report. A Contact Summary report

Date and Time

Predefined Values All Dates and Times ▾

Last Days ▾

Between Start Date/Time:  End Date/Time: 

Optional Filters [Reset](#)

Media Server: All servers ▾
ep71mpp1
EPM

Application: All applications ▾
5291
AEDOC2-AM

[more >>](#)

Report Type

Summarize By: Application ▾
Area Code
Day

Trending By: N/A ▾

The *Contact Summary* report (dropdown) includes Day, Media Server Port Utilization, and Peak Busy Ports. The following is an example of the Contact Summary report by Day.

Contact Summary Report

The Contact Summary report displays information regarding calls and messages handled b

Time Period: Dec 4, 2017 1:00:00 PM PST to Dec 9, 2017 11:59:59 PM PST

Total Contacts: 221

Average Duration: 44 seconds

Peak Contact Hour: Dec 7, 2017 2:00:00 PM PST to Dec 7, 2017 2:59:59 PM PST

Contacts in Peak Hour: 34

Summary By Day

Day	Minutes Used	Peak Busy Ports	Contacts
Monday, December 4, 2017	2	1	2
Tuesday, December 5, 2017	24	1	15
Wednesday, December 6, 2017	26	1	24
Thursday, December 7, 2017	66	2	102
Friday, December 8, 2017	47	2	78
Saturday, December 9, 2017	0	0	0

When the report is summarized by *Media Server Port Utilization*, it shows each of the ports on the MPPs with the number of Contacts, the Average Duration of the Contacts, and the percent of the time this port was in use. Note that this report could be very long for an AAEP with hundreds of ports and is probably the least useful of the three Contact Summary reports.

The Contact Summary by Peak Busy Ports gives a slightly different slant on the port usage. It shows the breakdown of the port usage by application on the platform and can be exceptionally useful since the call volumes interacting with each application will frequently be very different. Knowing how the individual applications load the platform provides useful insights into why ports should be added.

Contact Summary Report

The Contact Summary report displays information regarding calls and messages han




Time Period: Dec 4, 2017 1:00:00 PM PST to Dec 9, 2017 11:59:59 PM PST

Total Contacts: 221

Average Duration: 44 seconds

Peak Contacts: 2

Summary By Peak Busy Ports

Application	Peak Busy Ports
featuretest-sp	1
Rob- 	1
featuretest	1
 -Test	1
Rob- 	1
Jeff-Test	1



Let's consider the example of an AAEP platform with two applications: one that gets the bulk of the calls to provide a "general self-service" option and a second application that gets many fewer calls but provides service to high value customers. It is reasonable to expect that the first application uses more ports in most busy periods with the second application using some of the remaining ports. The Contact Summary by Peak Busy Ports report can show how the two applications are using ports during specific busy periods. As anticipated traffic for either or both applications increases, this report can help an admin determine when ports should be added to ensure that the second (higher priority caller) application isn't "starved" during an especially busy peak period. Alternatively, it can help an administrator determine other strategies that would ensure that the second application always get its required ports even if that means some callers to the first (general purpose) application have to be turned away.

Knowing how individual applications load ports during various time periods also allows an admin to better understand whether applications have joint busy hours or different busy hours where ports are better shared.

SUMMARY AND FINAL OBSERVATIONS

Although many customers have data from a CMS or other contact center reporting platform that indicates when peak busy times occur, the AAEP reports can pinpoint when high volume periods occur on the platform itself. For example, the Performance report can help identify which days have the highest port usage. Once those days have been identified, the Contact Summary report further indicates the pattern of usage on those busy days. If port usage varies significantly across the MPPs or if server resource usage appears unusually high, these are clues that further troubleshooting may be warranted.

Before adding new applications, these reports should be provided to the Business Partner and/or INI sales team. This will facilitate discussion of what, if any, platform modifications are needed to support the increased call volume driven by additional applications.



About Interactive Northwest, Inc.

INI has a 25-year partnership with Avaya and its predecessor companies as an integration partner and software developer. INI also has partnerships and development agreements with Nuance, LumenVox, Red Hat, and Microsoft. Our solutions have delighted over 1,000 customers nationwide, in a variety of industries, including insurance, healthcare, finance, education, and government.

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