







Crossroads Design for

6.28.10 release

**(VisProactive Diameter)**

* **VisProactive Diameter [PR\_3629]**

Version 1.0

Issued: 08/12/2014



This material is the exclusive property of, and confidential to, Syniverse Technologies, Inc.   
Any disclosure or reproduction of this material without Syniverse’s   
express prior ACC\_Rpt-WRitten consent is strictly prohibited.

The following product and service names, and the Syniverse name and logo are services, software products, service marks and/or trademarks of Syniverse Technologies, Inc.

|  |  |
| --- | --- |
| ACCESS S&E® | LAWBUST® |
| ACCESS® | PageNameSM |
| ACCESSibility® | Phone Me Anywhere Plus® |
| CCNSSM | PMA Plus® |
| CELLI® | RoamerXchange® |
| Commercial Carrier Network ServicesSM | SmartChallenge® |
| CrossroadsSM | SOLUTIONS® |
| EDTSM | Solutions Without Limits® |
| Electronic Data TransportSM | S.T.A.R.S. STREAMLINERTM |
| Encrypt-A-Key® | S.T.A.R.S. STREAMLINER Terminal Access Reporting System® |
| Fleet-On-TrackSM | STARS Special Thanks Awards for Remarkable Service® (logo) |
| Follow Me Roaming Plus® | STARS® |
| FraudInterceptor® | STARS® (logo) |
| FraudManager® | StatChek® |
| Fraud Resource CenterSM | STREAMLINER® |
| FraudX® | TransAction Manager® |
| GSM SS7 Transport® | Syniverse ConnectionsSM |
| InForum | Syniverse DataNetSM |
| inpackSM | UniRoamSM |
| INPort® | Visibility® |
| INPositionSM | WIN4SM\*\* |
| LATALinkSM |  |

Netscape and Netscape Communicator are registered trademarks of Netscape   
Communications Corporation.  
Microsoft and Windows are registered trademarks of Microsoft Corporation.  
Office and BackOffice are trademarks of Microsoft Corporation.

Used by Permission.

As used herein, ® denotes registration in the United States.

© Copyright 2008 Syniverse Technologies, Inc.  
All rights reserved under U.S. and International laws.[[1]](#footnote-1)‡

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Release Reason - Description of Changes | Author |
| 1.0 | 08/12/2014 | Initial Version | Marvin Li |

Table of Contents

[1 Introduction 5](#_Toc395890679)

[1.1 Purpose 5](#_Toc395890680)

[1.2 Definitions, Acronyms, and Abbreviations 5](#_Toc395890681)

[1.3 Correction and Revisions 5](#_Toc395890682)

[2 Software Design 6](#_Toc395890683)

[2.1 High Level Design Details – Permission Level 6](#_Toc395890684)

[ For Non Syniverse Company 6](#_Toc395890685)

[ For Syniverse Company 7](#_Toc395890686)

[2.2 Detailed Permission Level Changes 9](#_Toc395890687)

[2.3 DNS entries 12](#_Toc395890688)

[2.4 Grant Perms 12](#_Toc395890689)

[3 Requirements Tracing Matrix 13](#_Toc395890690)

# Introduction

## Purpose

The purpose of this document is to explain the design of VisProactive Diameter

## Definitions, Acronyms, and Abbreviations

Table ; Terminology

| Acronyms and Abbreviations | Description |
| --- | --- |
| GUI | Graphical User Interface |
| CTP | Central Tables Provisioning |
| uid | unique identifier |
| ou | organizational unit (LDAP) |
| MDR | Mobile Data Roaming |

## Correction and Revisions

Please direct comments or suggestions for modification, preferably via email, to:

**Gaurav Sharma**

**813-637-5765**

[gaurav.sharma@syniverse.com](mailto:gaurav.sharma@syniverse.com)

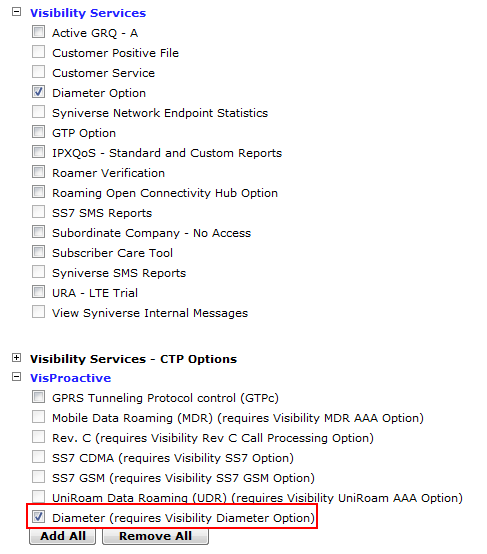
# Software Design

## High Level Design Details – Permission Level

### For Non Syniverse Company

* **Company Permissions:**

**Diameter (requires Visibility Diameter Option)** is enabled only if **Diameter Option** is checked

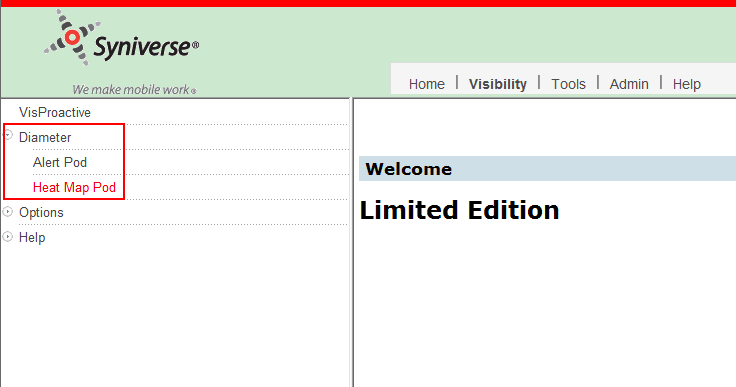


* **User Permissions:**



The Non-Syniverse company will get assigned “**VisPro\_Diameter\_cmpyP**” permission in the company\_resource table.

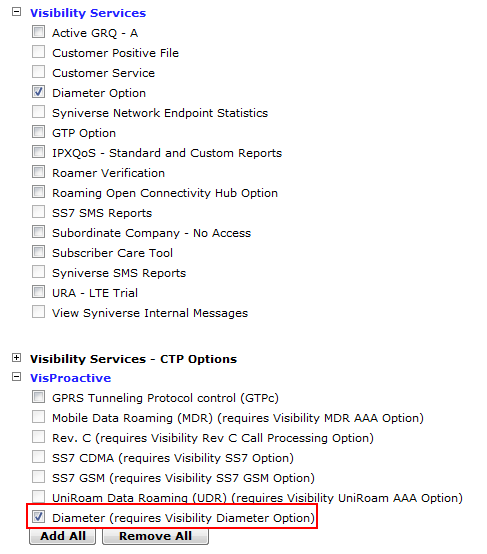
User’s having user permission “**Alert Pod View**” and/or “**Heat Map Pod**” under **“VisProactive - Diameter”** will see “Alert Pod” and/or “Heat Map Pod” link respectively.



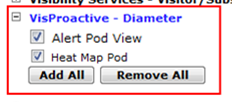
### For Syniverse Company

* **Company Permissions:**

**Diameter (requires Visibility Diameter Option)** is enabled only if **Diameter Option** is checked

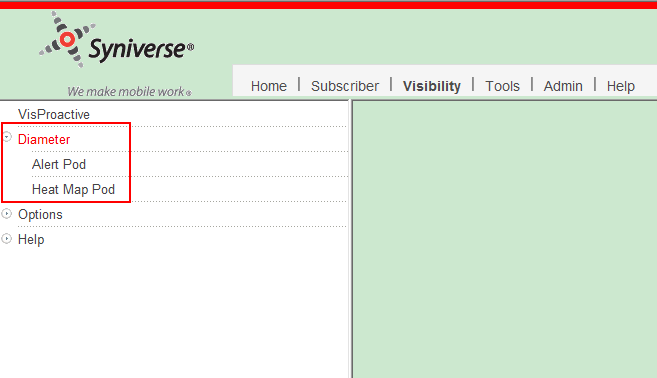


* **User Permissions:**



The Syniverse company will get assigned “**VisPro\_Diameter\_cmpyP**” permission in the company\_resource table.

User’s having user permission “**Alert Pod View**” and/or “**Heat Map Pod**” under **“VisProactive - Diameter”** will see “Alert Pod” and/or “Heat Map Pod” link respectively.



## Detailed Permission Level Changes

**New User Permission Group:**

**Permission Group Id:** VisPro\_Diameter\_userP

**Presentation Label:** VisProactive - Diameter

A new Permission Group resource will be added to the RESOURC table with RSRC\_ID: VisPro\_Diameter\_userP

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s PRSNTTN\_ID is VisPro\_Diameter\_userP\_prsn

- The PRSENTATION entry will have label of " VisProactive - Diameter"

The presentation order will be: 02104

This Permission Group will have Presentation label tag :4408

An entry will also be added to the LDAP for this permission group under ou=PermissionGroups, o=Crossroads with attributes as described above

**New Company Permission:**

**Permission Id:** VisPro\_Diameter\_cmpyP

**Presentation Label:** Diameter (requires Visibility Diameter Option)

A new Permission resource will be added to the RESOURC table with RSRC\_ID: VisPro\_Diameter\_cmpyP

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s PRSNTTN\_ID is VisPro\_Diameter\_cmpyP\_prsn

- The PRSENTATION entry will have label of " Diameter (requires Visibility Diameter Option) "

The presentation order will be: 0070

A Product relationship to the product resource, VisPro, will be added to the RSRC\_TO\_RSRC\_REL table for this resource so that the Visibility tab will be displayed for any users that are assigned this permission

A PermissionGroup relationship to the new permissionGroup resource, VisProactive\_Co, will be added to the RSRC\_TO\_RSRC\_REL table for this resource

Two Implied relationships to the permission resource, VisPro\_Co and VisPro\_Vis, will be added to the RSRC\_TO\_RSRC\_REL table for this resource

This Permission will have Presentation label tag :4409

This permission is applicable only for nonadmin company types

The Non-Syniverse company will get assigned this permission in company\_resource table.

An entry will also be added to the LDAP for this permission under ou=PermissionCode, o=Crossroads with attributes as described above

This Permission is dependent on **Diameter Option**. It is enabled only if **Diameter Option** is checked

**New User Permission:**

**Permission Id:** VisPro\_Diameter\_Alert\_Pod\_View\_userP

**Presentation Label:** Alert Pod View

A new Permission resource will be added to the RESOURC table with RSRC\_ID: VisPro\_Diameter\_Alert\_Pod\_View\_userP

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s VisPro\_Diameter\_Alert\_Pod\_View\_userP\_prsn

- The PRSENTATION entry will have label of " Alert Pod View "

A Copermission relationship the new permission resource, VisPro\_Diameter\_cmpyP will be added to the RSRC\_TO\_RSRC\_REL table for this resource

The presentation order will be: 0010

A Product relationship to the product resource, VisSvc, will be added to the RSRC\_TO\_RSRC\_REL table for this resource so that the Visibility tab will be displayed for any users that are assigned this permission

A PermissionGroup relationship to the new permissionGroup resource, VisPro\_Diameter\_userP, will be added to the RSRC\_TO\_RSRC\_REL table for this resource

Two Implied relationships to the permission resource, VisPro and VisPro\_Vis, will be added to the RSRC\_TO\_RSRC\_REL table for this resource

This Permission will have Presentation label tag :4410

An entry will also be added to the LDAP for this permission under ou=PermissionCode, o=Crossroads with attributes as described above

**New User Permission:**

**Permission Id:** VisPro\_Diameter\_Heat\_Map\_Pod\_View\_userP

**Presentation Label:** Heat Map Pod

A new Permission resource will be added to the RESOURC table with RSRC\_ID: VisPro\_Diameter\_Heat\_Map\_Pod\_View\_userP

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s VisPro\_Diameter\_Heat\_Map\_Pod\_View\_userP\_prsn

- The PRSENTATION entry will have label of "Heat Map Pod"

A Copermission relationship the new permission resource, VisPro\_Diameter\_cmpyP will be added to the RSRC\_TO\_RSRC\_REL table for this resource

The presentation order will be: 0020

A Product relationship to the product resource, VisSvc, will be added to the RSRC\_TO\_RSRC\_REL table for this resource so that the Visibility tab will be displayed for any users that are assigned this permission

A PermissionGroup relationship to the new permissionGroup resource, VisPro\_Diameter\_userP, will be added to the RSRC\_TO\_RSRC\_REL table for this resource

Two Implied relationships to the permission resource, VisPro and VisPro\_Vis, will be added to the RSRC\_TO\_RSRC\_REL table for this resource

This Permission will have Presentation label tag :4411

An entry will also be added to the LDAP for this permission under ou=PermissionCode, o=Crossroads with attributes as described above

**New Menu Group:**

**Id:** VisPro\_Diameter\_Menu\_prsn

**Presentation Label:** Diameter

A new Menu Group resource will be added to the RESOURC table with RSRC\_ID VisPro\_Diameter\_Menu

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s VisPro\_Diameter\_Menu\_prsn

- The PRSENTATION entry will have label of "Diameter"

This menu group is visible on the crossroads application when the logged in user has the **Permission Id:** VisPro\_Diameter\_Alert\_Pod\_View\_userP and/or VisPro\_Diameter\_Heat\_Map\_Pod\_View\_userP

This Permission will have Presentation label tag :4412

An entry will also be added to the LDAP for this menu under ou=PresentationObjects, o=Crossroads with attributes as described above

**New Menu Item:**

**Id:** VisPro\_Diameter\_Alert\_Pod\_menuitem\_prsn

**Presentation Label:** Alert Pod

A new Menu Item resource will be added to the RESOURC table with RSRC\_ID VisPro\_Diameter\_Alert\_Pod\_menuitem

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s VisPro\_Diameter\_Alert\_Pod\_menuitem\_prsn

- The PRSENTATION entry will have label of "Alert Pod"

This menu item is visible on the crossroads application when the logged in user has the **Permission Id:** VisPro\_Diameter\_Alert\_Pod\_View\_userP

This menu item will have URL:null

This menu item is placed under the menu group id: VisPro\_Diameter\_Menu\_prsn

This menu item will have have **ONCLICK** value: **parent.NavFrame.openWindow('https://${VISPRO\_DIAMETER}/ng-diameter/visproGUI/alert/index.html','AlertPod','Alert%20Pod')**

This Permission will have Presentation label tag :4413

An entry will also be added to the LDAP for this menu under ou=PresentationObjects, o=Crossroads with attributes as described above

**New Menu Item:**

**Id:** VisPro\_Diameter\_Heat\_Map\_Pod\_menuitem\_prsn

**Presentation Label:** Heat Map Pod

A new Menu Item resource will be added to the RESOURC table with RSRC\_ID VisPro\_Diameter\_Heat\_Map\_Pod\_menuitem

This resource will link to a new presentation entry that will be added to the PRESENTATION table

- The PRSENTATION entry’s VisPro\_Diameter\_Heat\_Map\_Pod\_menuitem\_prsn

- The PRSENTATION entry will have label of "Heat Map Pod"

This menu item is visible on the crossroads application when the logged in user has the **Permission Id:** VisPro\_Diameter\_Heat\_Map\_Pod\_View\_userP

This menu item will have URL:null

This menu item is placed under the menu group id: VisPro\_Diameter\_Menu\_prsn

This menu item will have have **ONCLICK** value: **parent.NavFrame.openWindow('https://${VISPRO\_DIAMETER}/ng-diameter/visproGUI/diameterHeatmap/index.html','HeatMapPod','Heat%20Map%20Pod')**

This Permission will have Presentation label tag :4414

An entry will also be added to the LDAP for this menu under ou=PresentationObjects, o=Crossroads with attributes as described above

## DNS entries

These are the new DNS entries required

* VISPRO\_DIAMETER=vis-diameter-portal-dev-alt.syniverse.com [6.xx DEV]
* VISPRO\_DIAMETER=vis-diameter-portal-test-alt.syniverse.com [6.xx TEST]
* VISPRO\_DIAMETER=vis-diameter.syniverse.com [production]
* VISPRO\_DIAMETER=vis-diameter-portal-dev.syniverse.com [7.xx DEV]
* VISPRO\_DIAMETER=vis-diameter-portal-test.syniverse.com [7.xx TEST]

## Grant Perms

No grant Permissions

# Requirements Tracing Matrix

| Traceability Map  VisProactive Diameter Feed SRS g  <Link to approved Requirements Document> | | |
| --- | --- | --- |
| For <Asset or Team> | | |
| High Level Design | Detail Level Design | System Test Plan |
| <Link to HLD> | <Link to DLD> | <Link to System Test Plan> |

| Requirement  # | Requirement title | Asset/Team | HLD  # | DLD  # | Test  # | Comment |
| --- | --- | --- | --- | --- | --- | --- |
| 3 | INCORPORATE NEW DATA FEED FOR DIAMETER DATA |  |  |  |  |  |
| 3.1 | VISIBILITY SERVICES REQUIREMENTS |  |  |  |  |  |
| 3.1.1 | Vis to VisPro Interface |  |  |  |  |  |
| 3.2 | DATA ANALYSIS AND PREPARATION |  |  |  |  |  |
| 3.2.1 | Preprocessor |  |  |  |  |  |
| 3.2.1.1 | Data Rules/Conditions |  |  |  |  |  |
| 3.2.1.2 | File Naming Conventions |  |  |  |  |  |
| 3.2.1.3 | Timestamps and Other Identifiers |  |  |  |  |  |
| 3.2.1.4 | Validation Rules |  |  |  |  |  |
| 3.2.2 | Aggregation |  |  |  |  |  |
| 3.2.2.1 | Timestamps |  |  |  |  |  |
| 3.2.2.1.1 | Start Timestamp |  |  |  |  |  |
| 3.2.2.1.2 | End Timestamp |  |  |  |  |  |
| 3.3 | POD/FEED SELECTION |  |  |  |  |  |
| 3.4 | LOCATION MENU HIERARCHY AND DRILL DOWNS |  |  |  |  |  |
| 3.4.1 | Exception – Most Active Pod |  |  |  |  |  |
| 3.4.2 | Allow User to Drill Down |  |  |  |  |  |
| 3.4.2.1 | Time Increments for Drill Downs |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 3.4.2.2 | Custom Report Selection Requirements (Desired) |  |  |  |  |  |
| 3.4.2.2.1 | User selection – allow 2 choices |  |  |  |  |  |
| 3.4.2.2.2 | User Defined Week |  |  |  |  |  |
| 3.4.2.3 | Country Drill Down |  |  |  |  |  |
| 3.4.2.3.1 | Default to All Countries |  |  |  |  |  |
| 3.4.2.3.2 | Upon selection of a country, “All Operators” for that country shall appear |  |  |  |  |  |
| 3.4.2.3.2.1 | Operator Drill Down |  |  |  |  |  |
| 3.4.2.3.2.1.1 | Default to All Operators |  |  |  |  |  |
| 3.4.2.3.2.1.2 | Upon selection of an operator, the Realm, or IP, or Host shall appear. |  |  |  |  |  |
| 3.4.2.3.2.1.3 | Realm and IP shall also allow drill down to Host level. |  |  |  |  |  |
| 3.4.2.4 | Headers/Titles for Customized View |  |  |  |  |  |
| 3.4.2.5 | Allow the user to change the chart type. |  |  |  |  |  |
| 3.4.3 | Allow the User to Drill Up |  |  |  |  |  |
| 3.5 | SELECT DATE RANGE AND INTERVAL SCREEN CHANGES |  |  |  |  |  |
| 3.5.1 | Custom Date Ranges |  |  |  |  |  |
| 3.5.2 | Select Range List Changes |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 3.5.3 | Many to Many Relationships |  |  |  |  |  |
| 3.6 | TRAFFIC TYPES |  |  |  |  |  |
| 3.6.1 | Request Code – Message Direction = Serv -> Home |  |  |  |  |  |
| 3.6.2 | Request Code - Message Direction = Home -> Serv |  |  |  |  |  |
| 3.6.3 | All Traffic Types |  |  |  |  |  |
| 3.7 | ERROR CODES |  |  |  |  |  |
| 3.7.1 | Invalid Answer Code |  |  |  |  |  |
| 3.7.2 | Drill Down to Detail Errors |  |  |  |  |  |
| 3.8 | GENERAL VISPROACTIVE REQUIREMENTS |  |  |  |  |  |
| 3.8.1 | Exporting and Printing |  |  |  |  |  |
| 3.8.1.1 | Export to CSV |  |  |  |  |  |
| 3.8.1.1.1 | Include Titles When Exporting to CSV |  |  |  |  |  |
| 3.8.2 | Print Function |  |  |  |  |  |
| 3.8.2.1 | Print Area |  |  |  |  |  |
| 3.8.2.1.1 | Grid View Printing |  |  |  |  |  |
| 3.8.2.1.2 | Graph View Printing |  |  |  |  |  |
| 3.8.2.1.3 | Heat Map Printing |  |  |  |  |  |
| 3.8.3 | Time Display/GMT Offset |  |  |  |  |  |
| 3.8.3.1 | Indicate Time Zone Offset on VisProactive Screens |  |  |  |  |  |
| 3.8.3.1.1 | Time Zone to Release and Company Name String |  |  |  |  |  |
| 3.8.3.1.2 | Graph/Grid Title |  |  |  |  |  |
| 3.8.3.1.3 | Screen Captures |  |  |  |  |  |
| 3.9 | ALERT POD REQUIREMENTS |  |  |  |  |  |
| 3.10 | CROSSROADS REQUIREMENTS |  |  |  |  |  |
| 3.10.1 | New Menu Item | 2.1/2.2 |  |  |  |  |
| 3.10.2 | CTP Permissions | 2.1/2.2 |  |  |  |  |
| 3.10.3 | Company Level Permissions | 2.1/2.2 |  |  |  |  |
| 3.10.4 | Add a New Grouping: VisProactive – Diameter | 2.1/2.2 |  |  |  |  |
| 3.10.5 | User Permissions | 2.1/2.2 |  |  |  |  |
|  |  |  |  |  |  |  |

1. [↑](#footnote-ref-1)