

Wireless Data Clearinghouse Services

“Addressing the Challenges of Wireless Data”

May 26, 2003

CDMA Americas Roaming Forum



Agenda

- Data is Different
- Data... “Unlocking the Revenue Potential”
- Clearinghouse Services
- Why a clearinghouse for data roaming?
- Data Roaming Service
- Key clearinghouse criteria

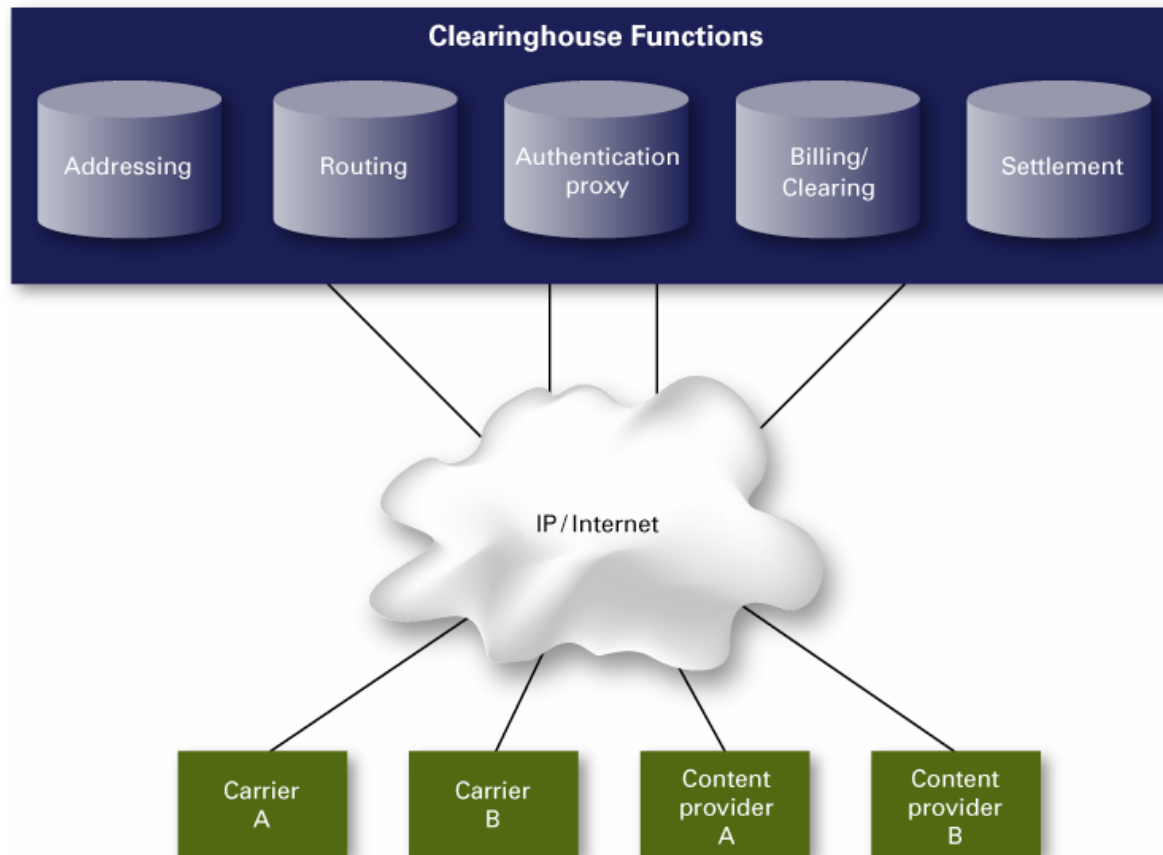
Data is Different

Characteristic	Voice	Data
Trading Partners	Carriers only	Carriers Content Providers
Transactions	Call	SMS, MMS, Internet PTT, IM, etc
Bandwidth	Fixed	Variable
Metrics	Minutes	Minutes, Bits, Message, Session, Subscription
Processing	Batch	Batch and Real-time
Business Rules	Well defined	TBD

Data... “Unlocking the Revenue Potential”

- Carrier interoperability is key...the SMS lesson
- Service availability...must work everywhere with everyone
- Mechanisms, processes and infrastructure for inter-carrier, content and application provider:
 - Addressing
 - Routing
 - Authentication
 - Billing
 - Clearing
 - Settlement
- Agreed upon business models and rules (e.g. what is a transaction?)
- Time is short...the clearinghouse model is a proven answer!

Wireless Data Clearinghouse Services



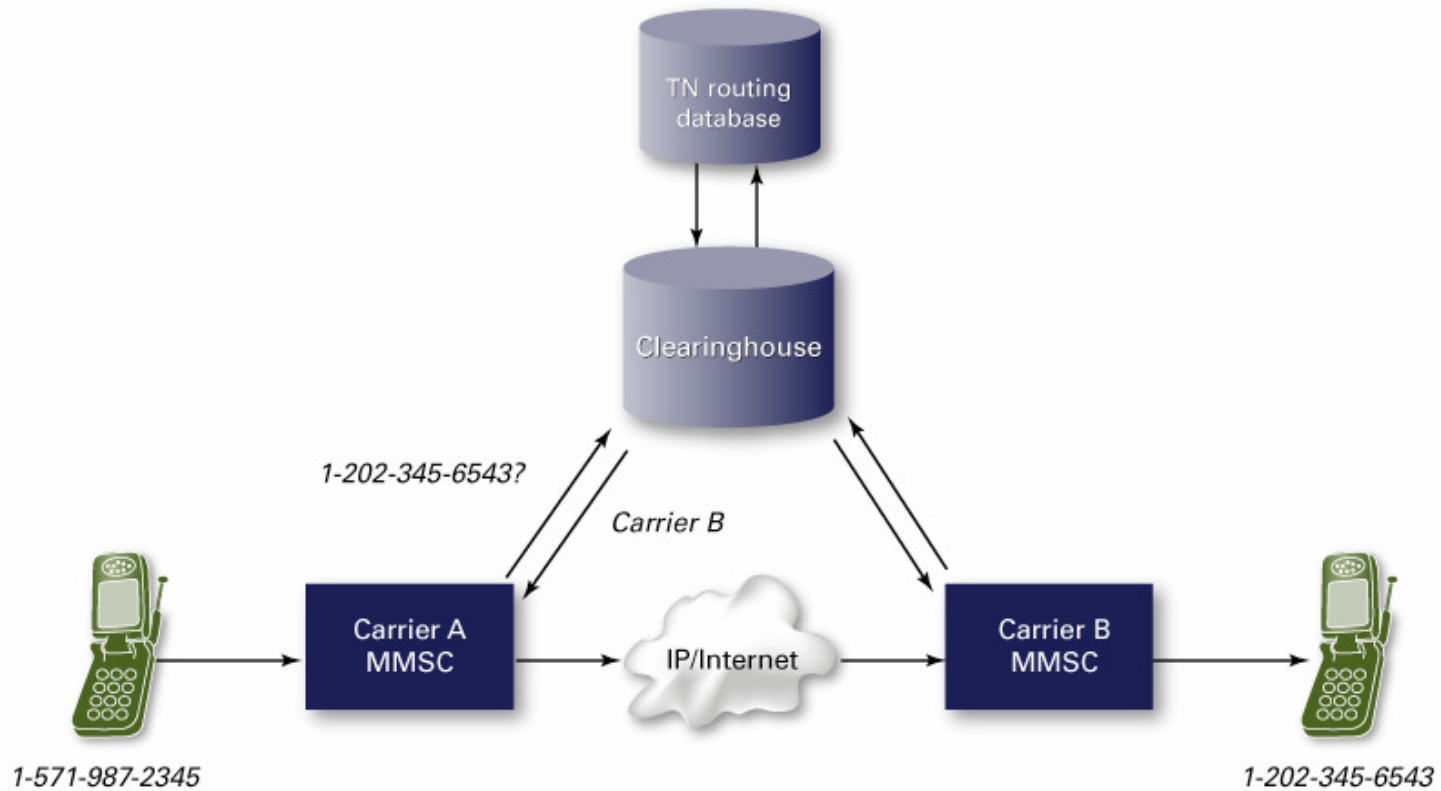
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Addressing

The screenshot shows the CSCA website in a Microsoft Internet Explorer browser window. The browser title is "CSCA - Microsoft Internet Explorer". The address bar is empty. The menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The website header includes navigation links: "Home", "About the CSCA", "Sitemap", "Site Search", and "Contact Us". The main content area features the CSCA logo (Common Short Code Administration) and a background image of a mobile phone. Below the logo is a red navigation bar with links: "ABOUT CSCs", "OBTAINING A CSC", "FAQs", "FIND A PARTNER", and "PRESS". The date "November 24, 2003" is displayed on the right. The main content area is divided into two columns. The left column has a heading "Common Short Codes" with the subtext "...expanding the reach of wireless". Below this is a paragraph about the immediacy of impact and unprecedented levels of consumer involvement. Another paragraph explains that CSCs are popular in Europe and allow wireless subscribers to access applications on all participating wireless carriers' networks. A bolded section states: "Revolutionizing the way businesses and organizations interact with key audiences, CSCs literally put power in the palm of the hand." Below this is a link to explore the site further. The right column has an "Account Login" section with buttons for "Login to My Account" and "Get an Account Now". Below that is a "Check CSC Availability" section with input fields for "Range of CSCs" and "or a Single CSC", and "Search" buttons. The "What's New" section includes links for "CSC Tutorial Workshop" and "NeuStar Selected by CTIA to Operate Common Short Code Registry". At the bottom of the page, there is a "1-2-3" guide for obtaining a CSC: 1. Establish an Account, 2. Apply for a CSC, 3. Receive your CSC. The browser status bar at the bottom shows "Internet".

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Routing Services



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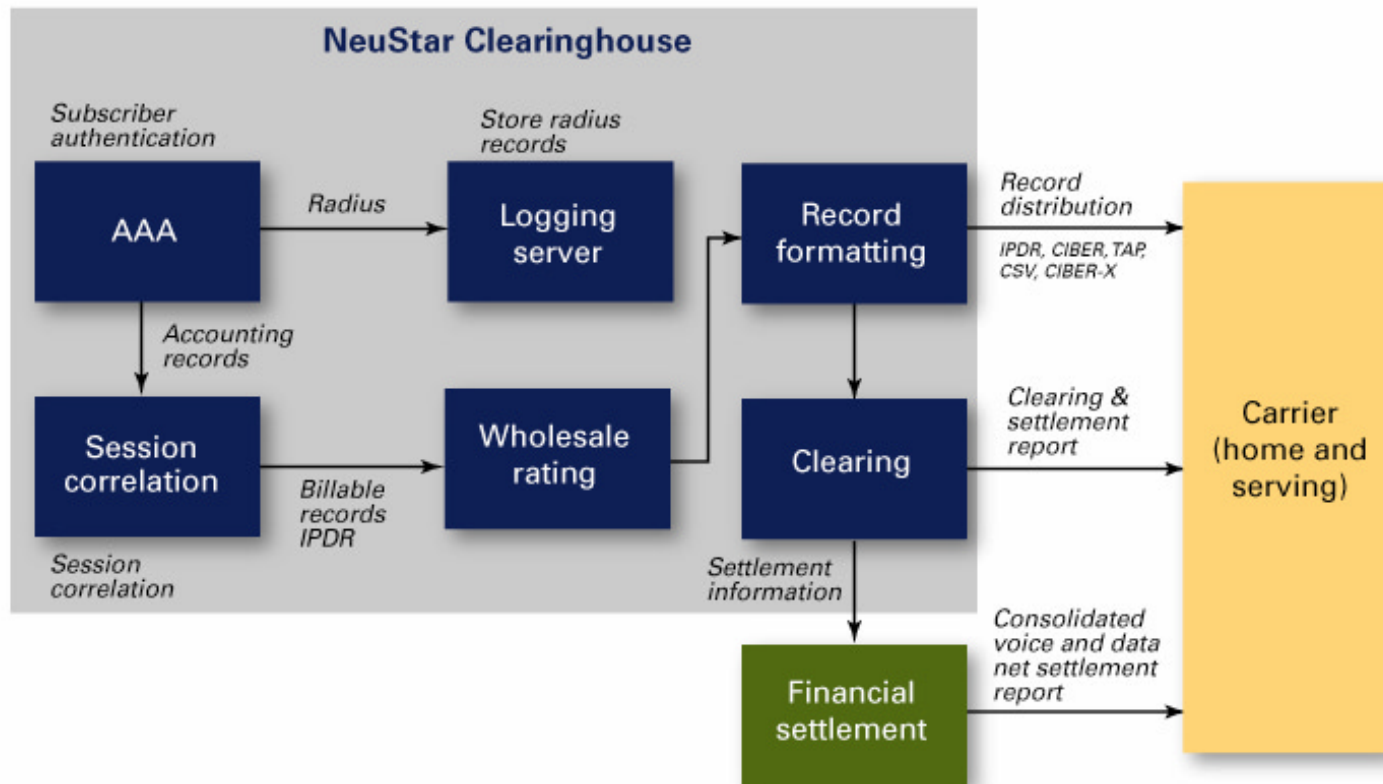
Why a data roaming clearinghouse?

Value Proposition

- Integrate once with the clearinghouse instead of integrating with each roaming partner
- Improves time to market
- Reduces administrative, operational, and development costs
- Increases roaming revenues (wholesale and retail)
- National and international footprint
- Allows mass marketing of data services
- Increases data ARPU
- Provides neutral third party reporting and dispute resolution

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Data Roaming Service Clearinghouse Capabilities

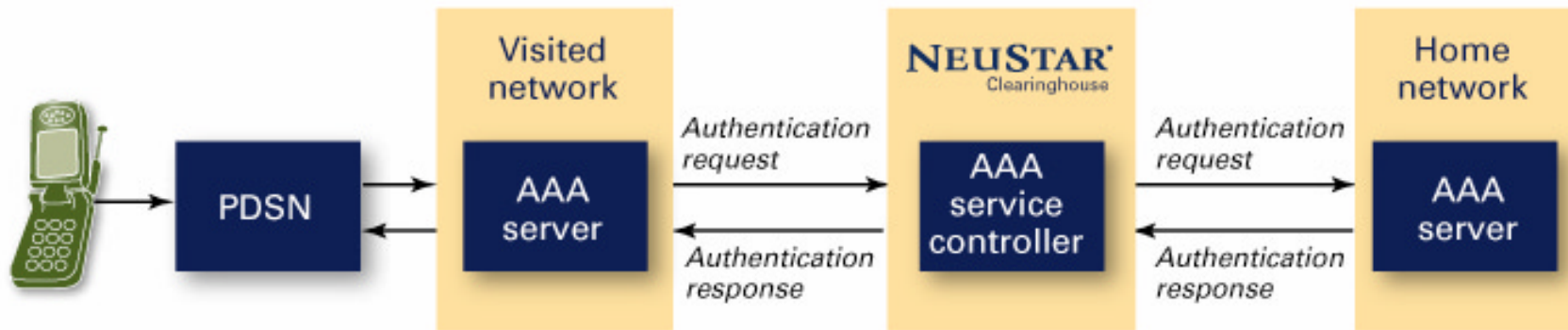


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Data Roaming Service

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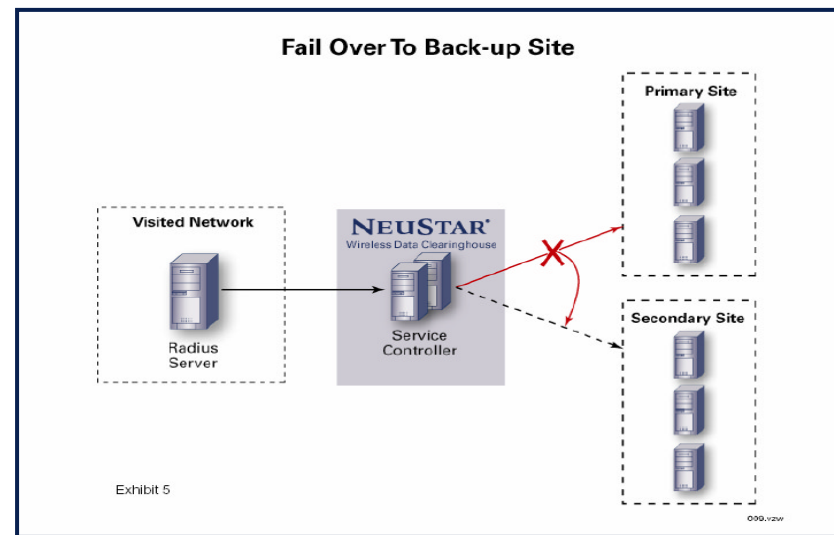
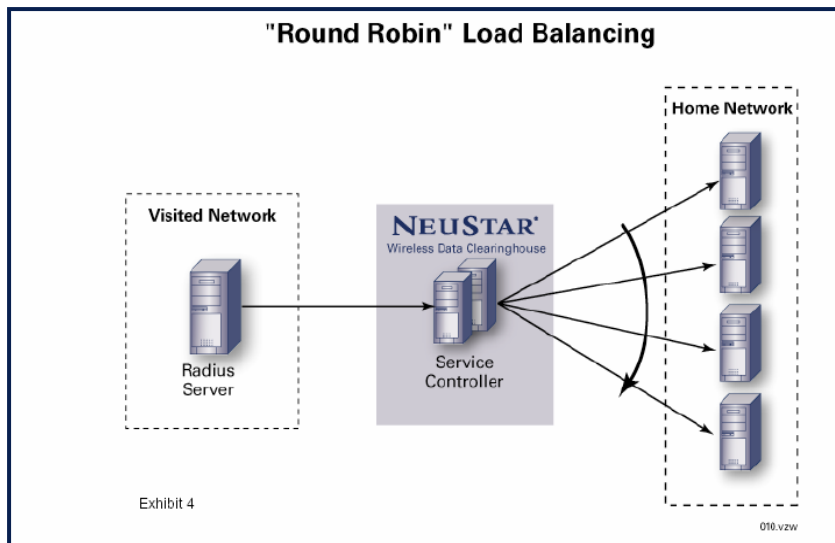
Subscriber Authentication



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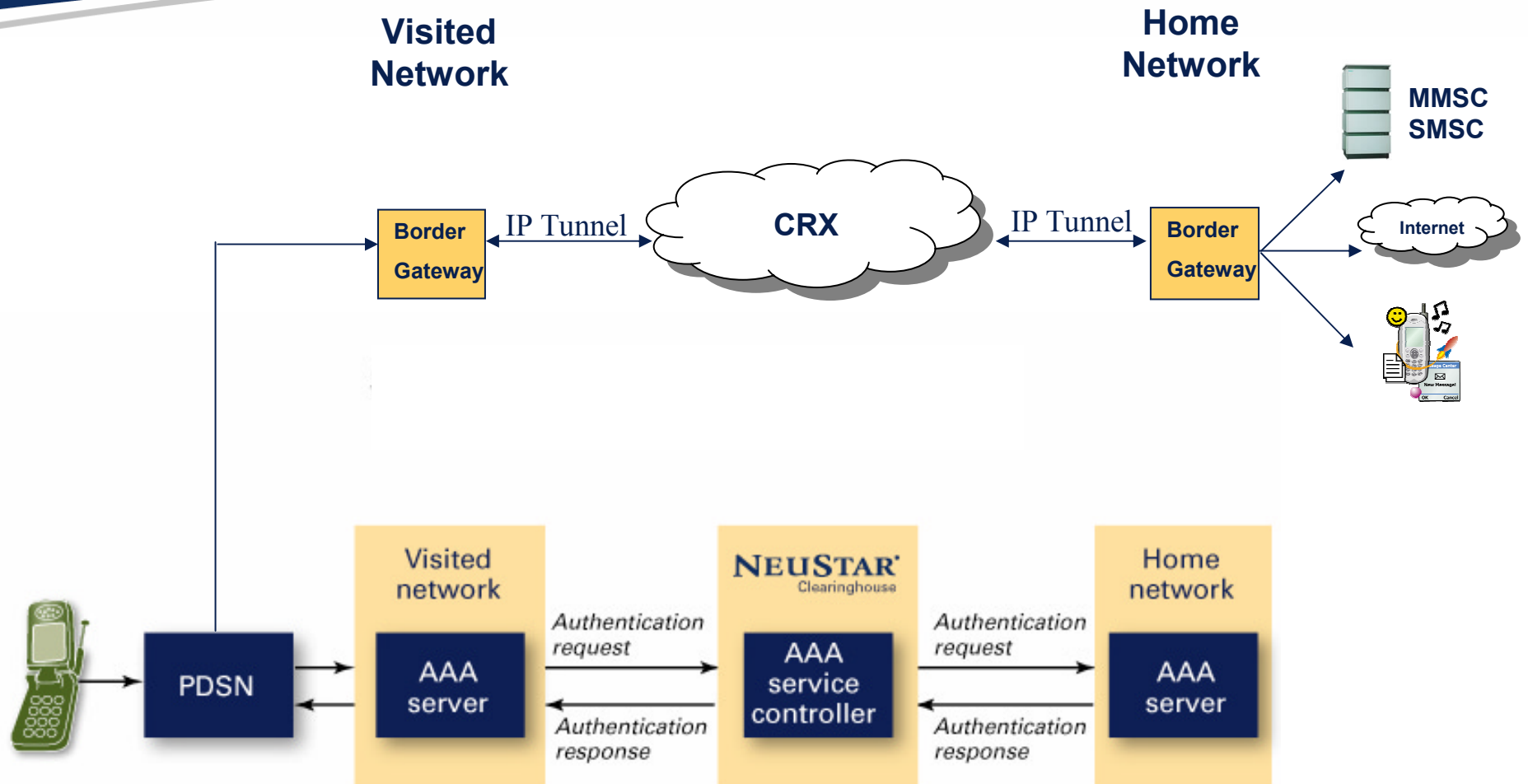
Data Roaming Service

Load-Balancing and Fail-Over



Data Roaming Service

IP Hubbing – “CRX”

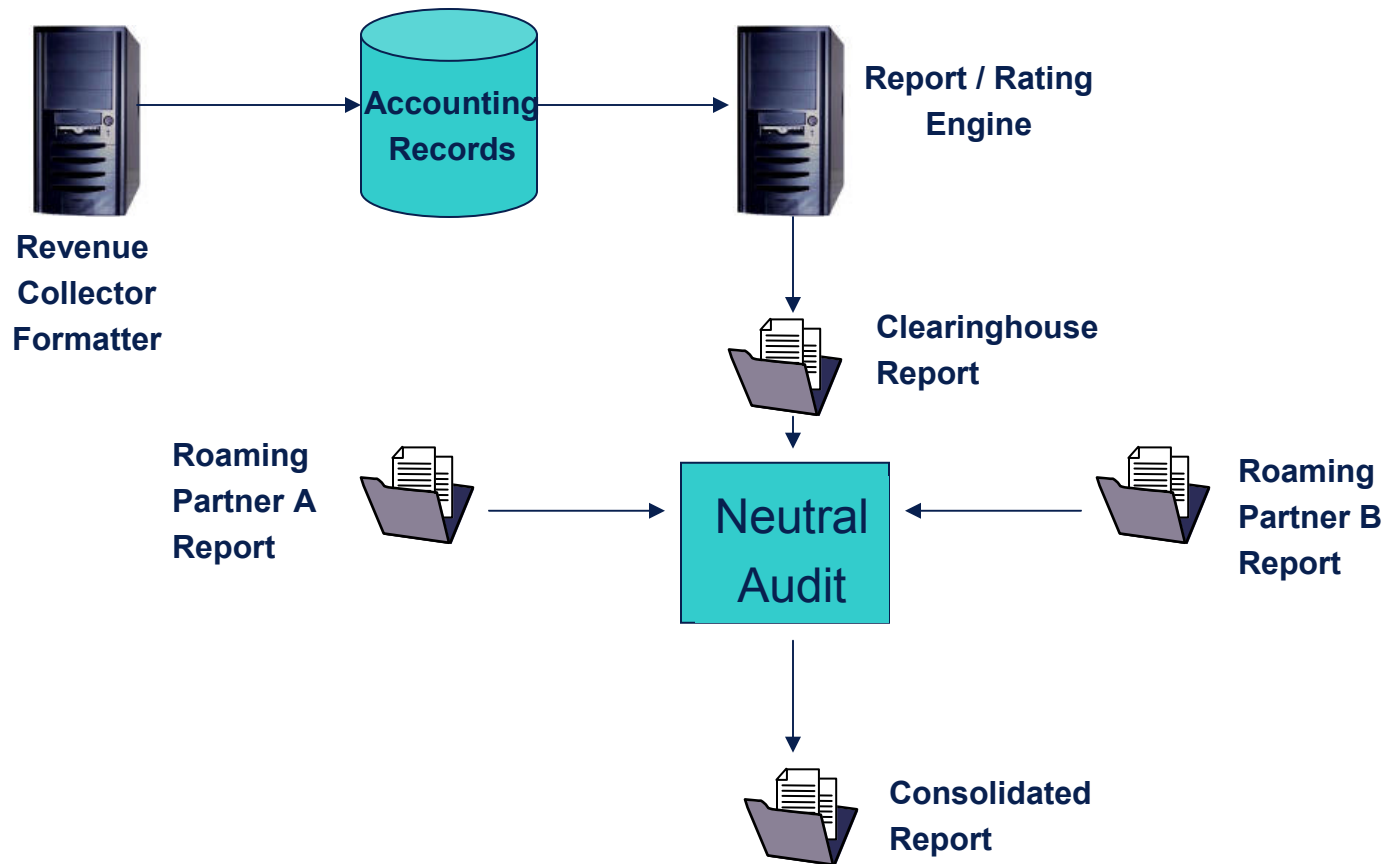


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Data Roaming Service

Clearing Reports



Key Criteria

- Proven high quality provider of mission critical infrastructure services to the industry
- Scalability...Not all RADIUS platforms can scale properly
- Flexible rating and reporting engine...Mbytes, Minutes, Sessions, Roaming Days
- Telco grade solution with guaranteed service levels (e.g. 99.999% availability)
- Broad and deep data services expertise and experience
- A solution tailored for data services and not a voice solution retro-fitted for data... “Data is different”
- Cost effectiveness...Clearinghouse pricing in synch with retail pricing
- Neutrality...trusted by the industry as a neutral third party

Questions & Contacts

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Thank You!

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