

WirelessReality® and SwitchRealitySM

Records and Assets Verification Services (RAVS)

RAVS is a web-based configuration management and network inventory service providing centralized access to detailed configuration and inventory data for each Alcatel-Lucent CDMA, EVDO, LTE Network element and 5ESS®. Through Reality Services Platform, users have 24x7x365 access to:

- Reporting – detailed configuration and inventory reports for Network Elements
- Report Subscriptions
- Inventory Search
- End-to-End License Management
- Data Standards and Auditing
- Network Engineering Tools
- Interfaces to backend Operational Support System (OSS)
- Service APIs

RAVS Environment

- RAVS supported technologies: CDMA, EVDO, LTE & Transport
- RAVS User Functional Areas
 - Accountant
 - Application Developers
 - Cell Technicians
 - Data and Translation Engineers
 - Inventory Management
 - License Management
 - Network and Operations Analysts
 - Network, Traffic, Planning, Facilities, and Capacity Engineers
 - RF Engineers
 - System Performance Analysts

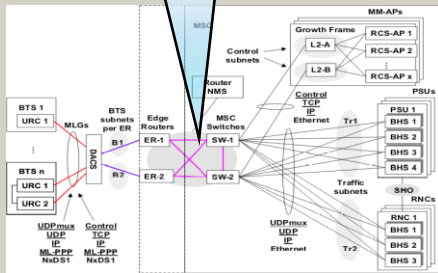
RAVS Reporting

RAVS reporting provides end users with detailed information about each network element within a customer's network. Information includes Inventory (Frame, Shelf, Card, Version, Serial #'s), Ports and Configuration.

- End-to-End connectivity reports are provided that display detailed network element to element interfaces (eg. PSU – SR – BTS)
- Report utilities are available for all reports,
 - Output formats HTML, EXCEL, CDT
 - Difference (comparison between two dates)
 - Filters
 - Report History (2 years)

The RAVS "7750-SR SM PSU IP Backhaul" report provides configuration details for the 7750-SR's connections to the SM PSUs.

The 7750-SR SM PSU IP Backhaul report covers the highlighted region of



7750-SR Name	The name of the 7750-SR
7750 Slot	7750 Board slot number associated with this connection
7750 MDA	7750 MDA associated with this connection
MDA Type	The description of the MDA where this multilink group terminates on the 7750
VLAN	VLAN assigned on the 7750-SR
7750 Port	7750 port number associated with this connection
Port State	The state of this port on the 7750
Service ID	7750-SR Service ID number for this connection
Service Name	7750-SR Service ID name for this connection
SM	The SM number associated with this connection
PSU	The PSU number associated with this connection
PH Group	The PH Group number associated with this connection
PH	The PH number associated with this connection
PH Shelf	The PH Shelf number associated with this connection
Channel Group	The Channel Group number associated with this connection
Slot	The PSU slot number associated with this connection
PHE Link#	The PHE link number associated with this connection
Serving IP Address	The IP address of the serving BPH
Non-Serving IP Address	The IP address of the non-serving BPH

Data from the 7750 and 9281 Packet Switch is combined to generated this report.

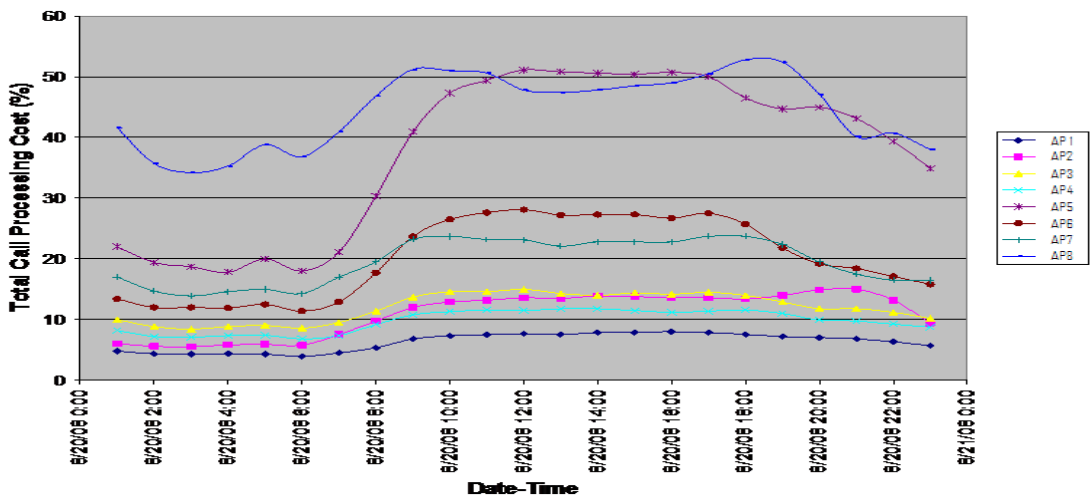
Network Engineering Tools

RAVS also provides a set of engineering tools that allow users to study and optimize components of their network (CMU & AP Engineering).

CMU Engineering analyzes service measurements history, configuration and license data across all cells in an MSC. It then determines what traffic the CMUs are currently carrying and identifies those that have underutilized licenses and those approaching or exceeding allocated capacity. CMU Engineering can also make CMU-carrier assignment recommendations that identify further license savings.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	CMU Utilization OFFICE: Gamma 10/11/2009													
2	FILTERING: Busy Hour Algorithm - Maximum Busy Hour Within Date Range From: 09/12/2009 To: 10/11/2009, CMU Utilization Threshold - 75%													
3	Cell	Cabinet	CDM	CCU Slot	Serial Number	CCU Type	CEs Max	CEs Enabled	CEs Used	Utilization	Recommended Changes			
4														
5	15	1	1	7	07Y00000001	CMUIVB	128	128	7.6	5.94%	Recover 3 Licenses			
6	15	1	1	8	07Y00000002	CMUIVB	128	96	78.2	81.46%	Need 1 License			
7	15	1	1	9	07Y00000003	CMUIVB	128	128	88.4	69.06%	No Change			
8	18	2	5	1	07Y00000004	CMUIVB	128	128	34.9	27.27%	Recover 2 Licenses			
9	34	1	1	1	07Y00000005	CMUIVB	128	96	80.1	83.44%	Need 1 License			
10	34	1	1	2	07Y00000006	CMUIVB	128	128	38.2	29.84%	Recover 2 Licenses			
11	34	1	2	3	07Y00000007	CMUIVB	128	128	32.4	25.31%	Recover 2 Licenses			
12	34	1	2	4	07Y00000008	CMUIVB	128	128	31.7	24.77%	Recover 2 Licenses			
13	38	1	1	1	07Y00000009	CMUIVB	128	128	53.4	41.72%	Recover 1 Licenses			
14	38	1	1	2	07Y00000010	CMUIVB	128	128	59.8	46.72%	Recover 1 Licenses			
15	38	1	2	5	07Y00000011	CMUIVB	128	128	42.6	33.28%	Recover 2 Licenses			
16	38	1	2	6	07Y00000012	CMUIVB	128	128	41.2	32.19%	Recover 2 Licenses			

AP engineering tool assists with the engineering of EVDO RNC APs by looking at the contributing factors and understanding how those factors add to the overall workload of the APs. It will then detail what changes are needed to balance AP workload, including BTS to AP associations, RNC group assignments, and neighbor lists.

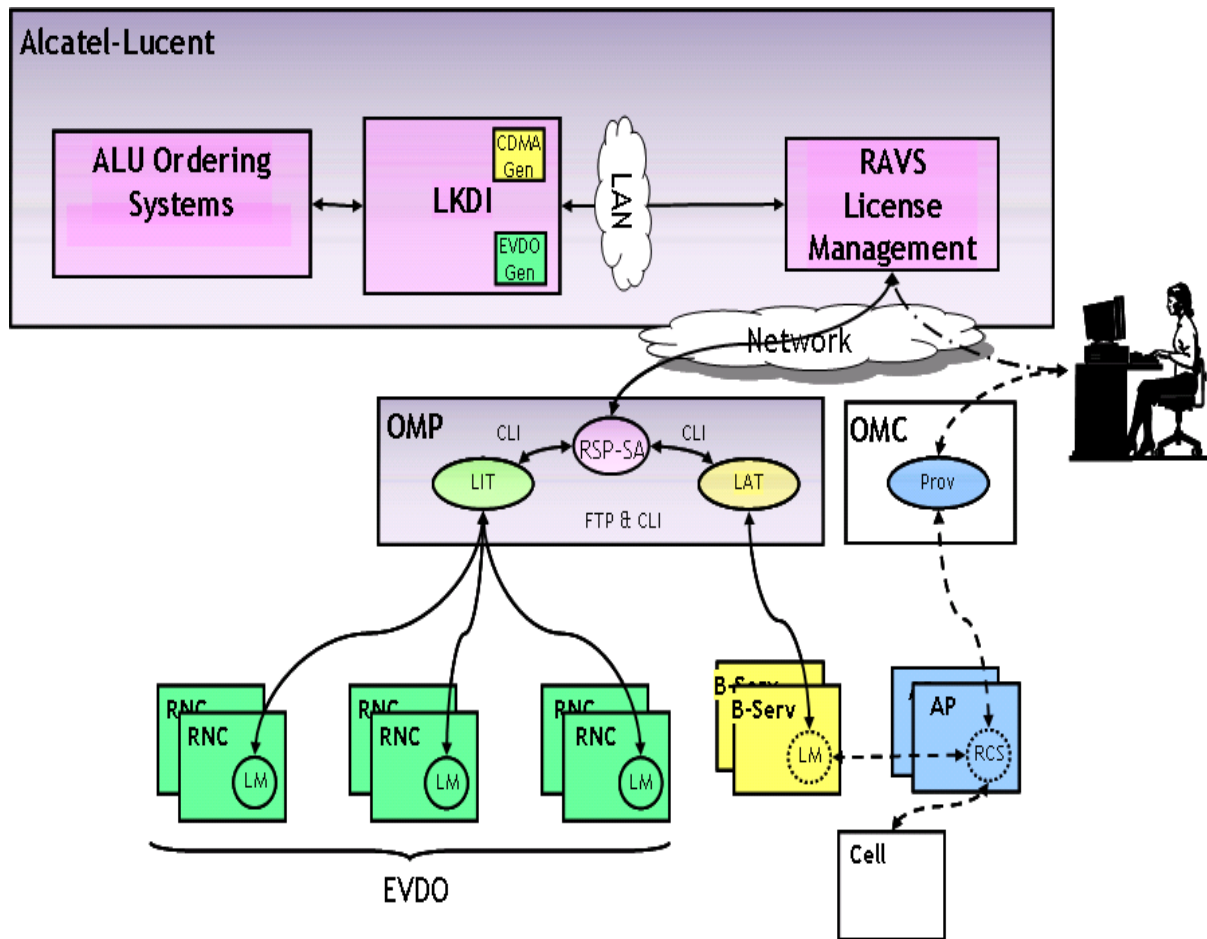


End-to-End License Management

RAVS License Management provides a complete view of software licenses, from purchase order to activation and utilization.

The RAVS LKDI interface gives users the ability to:

- Fulfill license requests from the pool of available entitlements
- Deploy and install these licenses onto desired MSC(s)
- Move licenses and capacity between network elements
- Monitor status of license generation and installation requests
- Audit for consistencies between LKDI and network

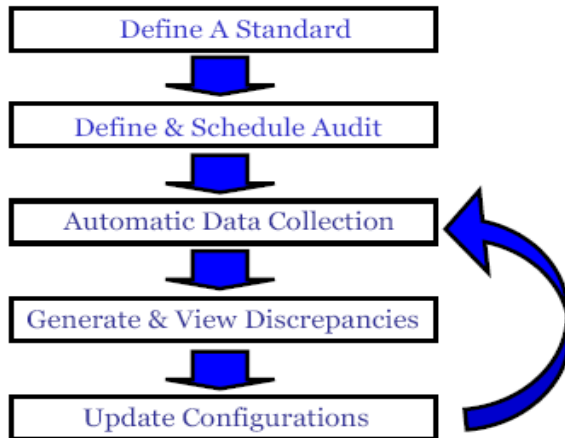


Data Auditing

RAVS data auditing module provides mechanisms for ensuring key parameters are set consistently across all network elements.

RAVS data auditing allows users to:

- Create data standards for network elements
- Audit network elements against user defined or ALU defined “Gold Standards”



Audits can be run on demand or scheduled to be run on a routine basis.

Audit reports will highlight where discrepancies have been found in the network either between network elements or against the standard.

Gold Standard Audit Report

Audit Dates: 10/01/2010,09/01/2010,09/15/2010

Selected NE Type: LSM

Selected Category: SYS_PARAM

Selected NEs: LSM1000003

Selected Releases: 6.1.9

Date: 10/01/2010

Parameter	Description	Range	Default Value	Gold Standard Value	09/15/2010	10/01/2010
T2	The maximum retransmit interval for non-INVITE requests and INVITE responses.	1000 ms - 32000 ms	16000 ms	4s	16	16
Timer C	SIP RFC retransmission Timer C	180-240sec	180sec	180sec	180	180
T4	SIP RFC retransmission Timer T4	2000 ms - 36000 ms	17000 ms	17s	17	17
T1	The SIP retransmit interval	100 ms - 4000 ms in steps of 100 ms	2000 ms	500ms	2000	2000
INVITE Fast Transaction Guard Timer	The SIP retransmit interval for INVITE Transactions	0-20 * T1	4* T1	3* T1	9	9
Non-INVITE Fast Transaction Guard Timer	The SIP retransmit interval for non-INVITE Transactions	0-20 *T1	9* T1	9* T1	9	9
Local Zone	The common part of the host portion of the SIP URI that are used in any IMS logical entity's URI.	Validly formatted domain name (128 characters long)	None	{subdomain}.els-att.net	n/a	n/a

RAVS Utilities

To enhance user's experience, RAVS provides a set of utilities that allow end user to get what they are looking for in the most efficient manner.

Inventory Search

- RAVS inventory search provides users a way to locate a specific piece of hardware in the network or generate network totals for a given hardware type.

Report Subscriptions

- For reports that are needed on a frequent basis across a number of network elements, users have the ability to schedule report subscriptions. With report subscriptions user can download a daily pre-generated report package that contains a set of reports for a given set of network elements generated from a user managed preferred report list.

RAVS API

- RAVS Application Programming Interface gives user the ability to automate report generation. This capability is used when users want to feed data into another system or tool.

RAVS OS Interface

- RAVS also provides a northbound interface for sending inventory data to OS systems such as PeopleSoft.

RAVS Contacts

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Technical support is available via two methods:

- Opening an AR by calling 1-866-LUCENT8
- Sending an e-mail to realityservice@alcatel-lucent.com

Login Access Support – Use the Contact Us link on the home URL at
<https://reality.alcatel-lucent.com/rsp>

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