

COMPARISON OF USER STATISTIC (METRICS) SYSTEMS FOR SIMULATORS AND PARCELS IN SECOND LIFE

We compared visitor statistics applications for traffic analysis of our institute's Second Life locations, sent a questionnaire to the 4 developers of professional applications with world-wide-web based analysis:

Second Analytics by Second Labs, Berlin, Germany,
Maya Realities by Maya Realities, Lafayette, USA,
Virtual World Analytics by Metaverse Solutions (SL-only)
and SmartPatrol also by a SL-only based development team.

All other metrics tools have no Second-Life to internet functionality, are limited in data display, usability and mostly outdated. Slogbase, an open source project offering php code for user tracking in Second Life appears to have discontinued its operations as of October, 2007. We attempted to install the Slogbase application but found it no longer functional.

Maya Realities was recommended to us by an actual user. Their only criticism was the license price. We have tested Second Analytics and SmartPatrol ourself with demo-versions. The suppliers have all answered within 3 days and sent back the questionnaire, all 4 have been very cooperative.

We left the answers uncommented and verified them with Second Analytics and SmartPatrol using the demo versions (except the multi-simulator and peak visitit times answers). If the tools are comparable we have left the cells white. If an application has more advantages over the others then we have marked the cell green. Orange cells indicate critical topics explained in the conclusion.

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BASIC FEATURES

		Second Analytics	SmartPatrol	Maya Realities	Virtual World Analytics
<u>Interface</u>					
All statistics and displays in www	y/n	Yes	Yes	y	yes
Database and webspace included	y/n	Yes	Yes	y	yes
Command method SL device	Menu or command line driven	Menu and command line driven	Menu, no cryptic SL-command-line-input necessary	menu	both are available
Website with password-protection	y/n	Yes	Yes	y	yes
Additional user accounts for website access (own login and password)	number	Yes	No, in preparation. Actually login + password just for the main user.	available upon request	yes
Accessibility limitations	(e.g. daily service or backup-times)	No	None	n/a	none
<u>Coverage</u>					
Complete simulator coverage possible	y/n	Yes	Yes	y	yes
Parcels (< 65500 sqm) coverage possible	y/n	Yes	Yes	y	yes
Coverage area ground (complete area scan)	sqm or m diameter	192m diameter/sensor, sensors can be clustered -> complete coverage of sim	65536 sqm (whole Simulator) with SmartPatrol basic installation	as large as necessary (multi-simulator)	complete region, or land borders
Coverage height (complete area scan)	m	96m/sensor, sensors can be clustered	750 m with SmartPatrol basic installation	as high as necessary	96 above the counter
Maximum height (part area scan)	m	not limited	4096 m (maximum height for all builds/sensors in SL)	as high as necessary	?
Suitable for private owned land	y/n	Yes, sensor must have the right to execute scripts	Yes	y	yes
Suitable for group owned land	y/n	Yes, sensor must have the right to execute scripts	Yes, installer must have officer rights (deeding objects + running scripts)	y	yes
Separated display of selected areas (POI)	y/n	Yes	Yes, additionally to basic scan. (Hotspots)	y	yes (display per counter)
Maximum diameter of POI scan	m diameter	192m diameter/sensor, sensors can be clustered -> unlimited coverage up to whole sim	190 m diameter	user definable as large as necessary	complete region or max. 96 meter (depending on counter used)
POI scan area changeable by user	y/n	Yes	Yes	y	yes
Self-re-positioning of POI by user	y/n	Yes	Yes	y	yes
Maximum number of POI's	number	Unlimited	12, additionally to basic scan	as many as necessary	not limited
Multi-parcel/simulator coverage (with extensions)	y/n	Yes	Yes	y	custom reports needed (extension)
Maximum simultaneous parcels/simulators in website-display (with extensions)	number	Unlimited (largest client has 43 sims)	16, larger installations on request.	as many as necessary	not limited
<u>Installation</u>					
Delivery time	hours/days	1 working day	Immediately	2 days	0 hours
Customization by developer needed for each installation	y/n	No	No	n	none
Automatic installation (without help of developer)	y/n	Yes	Yes	n (self install is available, but we still need to enable the web account)	yes - no help needed - but available on request - user manual and knowledge base explains everything
Unusual parcel layouts possible with auto-install (e.g. t - or L-form)	y/n	No	Yes	y	yes
Menu-driven installation	y/n	Yes	Yes	y	yes
Average installation time	min or h	10 seconds/sensor	Complete system covering the whole Simulator/Parcel in 5 minutes for unexperienced user.	professional (< 1 hour), self install http://docs.google.com/docid=dgb6gf4r_23gsc	5-30 min.
Automatic update mechanism for SL devices	y/n	Yes	Yes	y	no
<u>Misc</u>					
Daily data backup	y/n	Yes	Yes	y	yes
Database type	mySQL, ingres...	MySQL	mySQL	MySQL	mysql
Average script time requirement of all units in SL (10 avatars on the SIM)	ms	0,1 ms	0.03 ms (Basic unit only 0.017)	varies, very minimal	no information available
Maximum script time requirement of all units in SL (Max avatars on the SIM)	ms	0,2 ms	0.1-0.3 ms	minimal	no information available
Prim requirement	number	1 prim sensor	2 prims for basic station, 1 for each satellite or Hotspot.	usually 4-10	3 prims/counter

STATISTIC FEATURES

		Second Analytics	SmartPatrol	Maya Realities	Virtual World Analytics
Maximum online visitors displayed simultaneous	number	20/sensor, sensors can be clustered	90-100 (maximum capacity of SL SIM)	the simulator maximum	not limited
Static or interactive maps	static/interactive (panning, zooming)	Yes	Interactive, based on Google Maps.	interactive	selection criteria no generate reports (period, interval)
Visitor height information in maps	y/n	No	Yes	n (available in CSV downloads)	no
Mouse-over information in maps (e.g. visitor name, height, action)	y/n	Yes	Yes	n (available in CSV downloads)	no
Prognosis SL visitor count	y/n	No	Yes	?????	no
Average SL->www data transfer time: (time difference between a visitor arrives and display opn the website)	sec	5 Seconds	1-10 sec	5 minutes	2-4 hours for reports (1-5 secs for HUD)
CSV-download of the visitor data	y/n	Yes	Yes	y	yes
<u>Basic displays</u>					
- Average visit time	y/n	Yes	Yes	y	yes
- Unique visitors	y/n	Yes	Yes	y	yes
- Returning visitors	y/n	Yes	Yes	y	yes
<u>Visitor List:</u>					
- Avatar Name	y/n	Yes	Yes	y (assuming an appropriate privacy policy)	yes
- Actual visitors highlighted	y/n	Yes	Yes	???	no
- Visitor language	y/n	Yes, addon "Geolocation" with country, region, city, Language	Yes	n	yes
- Visitor position	y/n	No	Yes	y	yes
- Visitor POI	y/n	Yes	Yes	y	?
- Visitor activity (e.g. flying)	y/n	No, data is in database but not visualized yet	Yes	y	no
- Entry time	y/n	No, data is in database but not visualized yet	Yes	y	no (only with extension)
- Exit time	y/n	Yes	Yes	y	no (only with extension)
- Duration	y/n	Yes	Yes	y	yes
<u>Graphs</u>					
- Number of visits	y/n	Yes	Yes	~15	yes
- Number of unique visitors	y/n	Yes	Yes	y	yes
- Number of returning visitors	y/n	Yes	Yes	y	yes
- Number of returning visitors on same day	y/n	Yes	Yes	y	yes
- Visit durations	y/n	No	Yes	y	yes
- Hitlist popular places	y/n	Yes	Yes	n	yes
- Visitor languages with count and percentage	y/n	Yes, addon "Geolocation" with country, region, city, Language	Yes	n	yes
- Visitor real life locations (map?)	y/n	Yes, addon "Geolocation" with country, region, city, Language	Against Linden Labs TOS (see footnote)	y	yes
<u>Maps</u>					
- POI locations	y/n	Yes	Yes	y	yes
- Actual visitors	y/n	No	Yes, with mouse-over info.	y	no
- Whole day visitors	y/n	No	Yes	n	?
<u>Selectable duration for all lists/graphs/maps</u>					
- Actual time display	y/n	Yes	Yes	y	?
- Daily display	y/n	Yes	Yes	y	yes
- Weekly display	y/n	Yes	Yes	y	yes
- Monthly display	y/n	Yes	Yes (with 30- or 90-day extension)	y	yes
<u>Selectable area for all lists/graphs/maps</u>					
- Whole scan area	y/n	Yes	Yes	y	yes
- Each POI separated	y/n	Yes	Yes	y	yes

SECURITY AND LAND MANAGEMENT FEATURES / SUPPORT

		Second Analytics	SmartPatrol	Maya Realities	Virtual World Analytics
Security					
Coverage ground area for all security commands	<i>sqm or m diameter</i>	n/a	65535 sqm (whole Simulator)	na	no
Coverage height for all security commands	<i>m</i>	n/a	4096 m (maximum height for all builds in SL)	na	no
Customized land access list in www (additional to ban lists in SL)	<i>y/n</i>	n/a	Yes, up to 100 avatars	n	no
Customized land ban list in www (additional to ban lists in SL)	<i>y/n</i>	n/a	Yes, up to 100 avatars	n	no
Toggle ban list from www on/off	<i>y/n</i>	n/a	Yes	n	no
Toggle access list from www on/off	<i>y/n</i>	n/a	Yes	n	no
Toggle group access only from www on/off	<i>y/n</i>	n/a	Yes	n	no
Adjust warning time from www	<i>y/n</i>	n/a	Yes	n	no
Display of prim owners	<i>y/n</i>	n/a	Yes	n	no
Blocking and ejecting avatars above 150 meters	<i>y/n</i>	n/a	Yes	n	no
Direct ban/eject from actual visitors list	<i>y/n</i>	n/a	Yes	n	no
Direct adding visitors to access lists from actual visitor list	<i>y/n</i>	n/a	Yes	n	no
Data replication of the customized lists with SL parcel lists	<i>y/n</i>	n/a	Yes	n	no
Adding avatars to lists by verified name input	<i>y/n</i>	n/a	Yes	n	no
Average www->SL transfer for security commands:	<i>sec</i>	n/a	< 1 sec	na	no
Land Management					
<u>Parcel:</u>					
- Statistic primitives	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
- Display parcel basic settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
- Display parcel access settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
- Display parcel security settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
<u>Simulator:</u>					
- Statistic primitives	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
- Display simulator basic settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	y	no
- Display simulator performance data	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	y	yes
- Display parcel access settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
- Display parcel security settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes	n	no
Highlight-display of colliding settings	<i>y/n</i>	No - Standard Second Life viewer functionality	Yes, in security topics	n	no
Support					
Actual installations in SL	<i>number</i>	1.6 Million Avatar Profiles in Database	With antecessor UP System about 800 installations.	1280+ regions	more than 3000 counters installed
Homepage	<i>www...</i>	www.second-labs.com	www.logiq.biz	www.mayarealities.com	http://www.metaversebusiness.com
Help documents in www	<i>y/n</i>	Yes	Yes	y	yes
FAQ in www	<i>y/n</i>	Yes	Yes	y	yes
Free demo version	<i>y/n (please name limitation)</i>	Yes	Yes, fully functional for 2 days.	y limited range, no aggregation between sensors, no web access	yes, limitation are land borders and no www reports (only chat + HUD), no support
Automated password help (e.g. by email)	<i>y/n</i>	Yes	Yes	y	yes
Mouse-over explanations of all topics	<i>y/n</i>	Yes, mostly	Yes	n	yes
Support by SL notecard	<i>y/n</i>	Yes	Yes	n	yes
Support by email	<i>y/n</i>	Yes	Yes	y	yes
Support languages	<i>languages</i>	English, German	English, German (American-German development team)	english	english, french, dutch
Average support reaction time	<i>hrs/days</i>	0900 AM - 0600 PM CET (Central European Time Zone, Second Labs is in Berlin, Germany)	~ 12 hours. Mostly ;-	1 day	< 8 hours

COSTS

		Second Analytics	SmartPatrol	Maya Realities	Virtual World Analytics
Price basic unit	US\$ or L\$	from 3.200L\$ (APPROX. 11 US\$) /month	1,999 L\$ (~ 7.50 US\$) for the 2 year license. Continous display of the visitors of the last 7 days.	\$480 USD per region per year	15 USD (4000L\$) for region counter, 30 USD (8000L\$) for extended monthly subscription, 7.5USD (2000L\$) for geolocalization counter + 7.5USD (2000L\$) for monthly geolocalization reports access (but intro counter is 0.5 USD (150L\$) and 1 USD (250L\$) monthly)
Price extensions	<i>please name extensions and price</i>	Geolocation Module 2.000 L\$/sensor/month - Campaign Module 2.000 L\$/sensor/month - Mass-IM-Module from 24 L\$/IM - Excel Export Module 2.000 L\$/sensor/month - Company Owned Second Analytics Server Customizing Work - www.second-labs.com/analytics_i	Extension of continous visitor display to 30 days: 7,950 L\$ (~ 30.50 US\$) for 2 years license. Extension of continous visitor display to 90 days: 21,950 L\$ (~ 83,80 US\$) for 2 years license. Updates for free in the first year. Further updates (max. 1-2 per year) for 999 L\$ (~ 3.50 US\$) each.	\$100 per survey	
Additional costs (e.g. installation, maintenance...)	<i>please name costs and price</i>	Usually 125,00 US\$/hour	None	\$50 optional installation per region, optional per hour assistance on API programming	none
License period	<i>months</i>	1, 6, 12 months	2 Years	3 month, 6 month, 12 month	monthly subscription to access reports needed
Complete price for 65,000 sqm, 2 year license period, complete ground scan, complete height coverage 0-300m, 10 highlighted POI locations, 1 Skybox at 1500 m height	US\$ or L\$	23 Sensors needed/2 Years: 1.766.400,00 L\$ (9,2 X Package "Second Analytics 5 Sensors/12 months"), excl. Installation, Service, Support, Maintance, ...) APPROX. 6.500 US\$	3,997 L\$ (~ 15.32 US\$)	\$960 USD	assumption: scan at ground range and scan at skybox range implies using 2 region array counters. 2 region array counters = 2x4000L\$ extended monthly subscription = 8000L\$ Note that you can scan several regions using 1 account (and having to pay only 1 subscription). For each region you will need to buy another counter - but this cost occurs only once (no monthly fee). For example if you have 5 regions, then your initial cost is 5x4000=20 000L\$, but your monthly cost is for 1 subscription (8000L\$)
Complete price for 20,000 sqm, 2 year license period, scan height 0-300m (complete coverage), 5 highlighted POI locations, 1 Skybox at 1500 m height	US\$ or L\$	18 Sensors needed/2 Years: 1.382.400,00 L\$ (7,2 X Package "Second Analytics 5 Sensors/12 months"), excl. Installation, Service, Support, Maintance, ...) APPROX. 5.100 US\$	3,997 L\$ (~ 15.32 US\$)	\$960 USD (one region minimum)	assumption: scan at ground range and scan at skybox range implies using 2 visitor counters - pro 2 visitor counters = 2x400L\$ extended monthly subscription = 0L\$ (if using account of the above mentionned setup. Note that you can have an unlimited amount of counters on 1 account)
Comments of the suppliers		PRICE ACCORDING TO PRICING LIST FROM http://www.second-labs.com/analytics_i If you would like to purchase our system, we suggest creating an individual proposal with a package including installation and support.	Real Life Locationing: Scanning of reallife visitor data is against Terms of Service of LindenLabs© and data privacy laws of many states. A violation of the LL TOS "may result in immediate and permanent suspension or cancellation of your account." Combined with the loss of all items in SL© for the creator and user of the statistic device. SmartPatrol uses a new method conformal to the LindenLabs© TOS to receive language informations.	Measuring object interactions: For example, touch, sit, pay, and communicate. We also include an in-world survey system that was not listed on the spreadsheet.	Also note that we have an event monitoring solution (included in our extended subscription) that allows you to see statistics of events such teaching courses/meetings.

CONCLUSION

	Second Analytics	SmartPatrol	Maya Realities	Virtual World Analytics
Basic Features				
Interface	***	***	***	***
Coverage	***	***	**	***
Installation and Delivery	**	****	*	***
Statistic Features				
Performance and Usability	**	***	no realtime display	no realtime display
Basic displays	***	***	***	***
Visitor List	**	****	****	**
Graphs	**	***	**	**
Maps	**	***	**	**
Security Features				
Parcel security	not available	****	not available	not available
Simulator Management Features				
Parcel	not available	****	not available	not available
Simulator	not available	****	**	*
Support				
Number of installations and support	***	***	***	***
Costs				
Basic costs and extensions costs	**	****	*	**
Running expenses with 'hidden' costs	*	****	*	*

All four systems seem to be suitable and stable enough for professional use. They offer interfaces or data export to the common offline statistic applications for further analysis.

The differences are marginal except in the following topics:

- Maya Realities and Virtual World Analytics' transfer rates are 5 minutes (2 hours) from the arrival time of an avatar in Second Life to the display on the website. This is far too long for realtime analysis, especially during events and lessons.
- No system except SmartPatrol offers security features. While this is not essential, it remains a very useful feature that enables the inexperienced user to ban avatars in emergency situations without scrolling through multiple windows in the Second Life client. In multi-parcel or multi-simulator clusters the ban takes effect on all parts, regardless of estate ownership. No system except SmartPatrol offers detailed simulator and parcel management functions.
- The setup procedures vary as well as the delivery times of the systems.
- There seems to be a serious problem with geotagging (real life localisation) with the Terms of Service of Linden Labs, the company that operates Second Life. The company has failed to respond to our inquiry as to whether this geotagging is allowed. Maya Realities, Second Analytics and Virtual World Analytics use geotagging and combine non-personalised data from Second Life with "Real Life" data. This could violate European Union directive 95/46/EC on the protection of personal data and also country laws in Europe. An elimination of this functionality should be offered by the supplier at the time of purchase.
- There is a significant price difference between the 3 applications which is not justified by the functional range or other aspects.