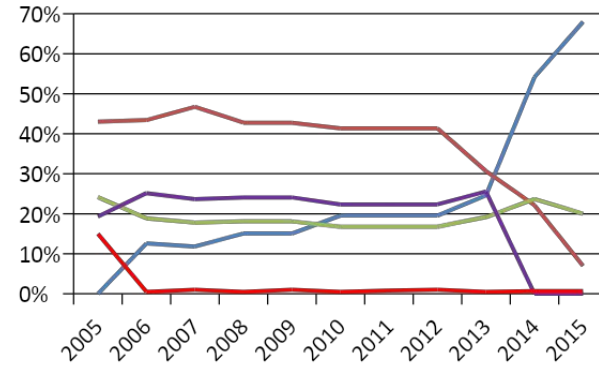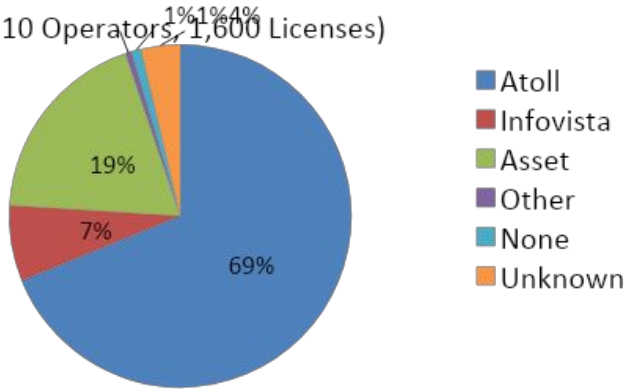# Comparative Analysis

November 2016

Summary

- Market share

- Atoll advantages against Planet

- Atoll advantages against Asset

- Conclusions

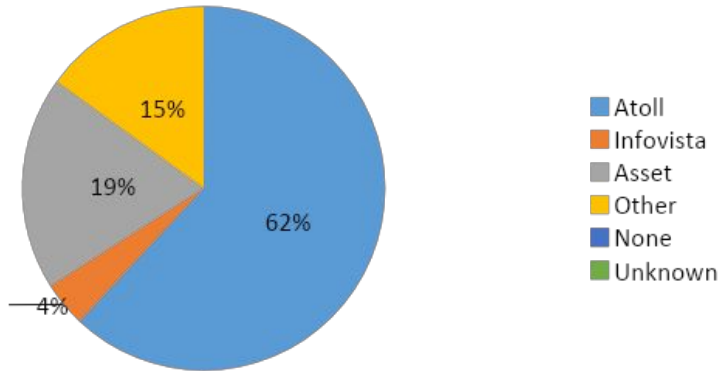# Atoll 3.3 vs. Planet 6

- Market share and customer base

- Platform

- Data and User Management

- GIS and GUI

- RF technologies

- Advanced technology features (LTE)

- ACP

- Ray-tracing propagation model
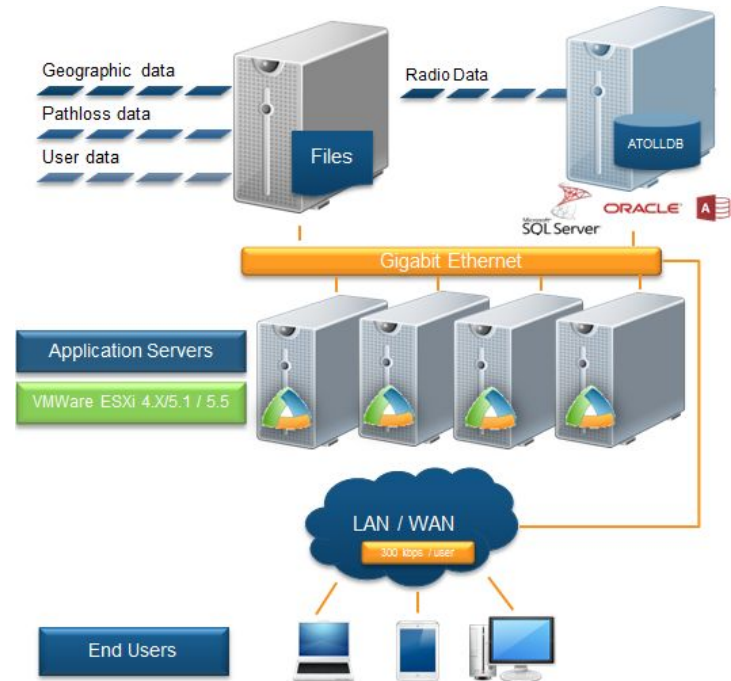
# Market Share and Customer Base

Platform: Atoll Advantages over Planet

- **Ease of installation and administration**

    - Easy to install and administer

    - Citrix friendly

- **Import/export**

    - Flat files

    - Copy/paste

- **Project portability**

    - One file

    - Save to zip..

- **Data and User Management**

    - Database and UI restrictions

GIS and GUI: Atoll Advantages over Planet

- ## GIS platform

  - Native high performance

- ## File formats

  - Multi-format including latest formats

- ## User friendliness

  - Ease of interaction with map objects and table data

- ## Multi-resolution and transparent prediction maps
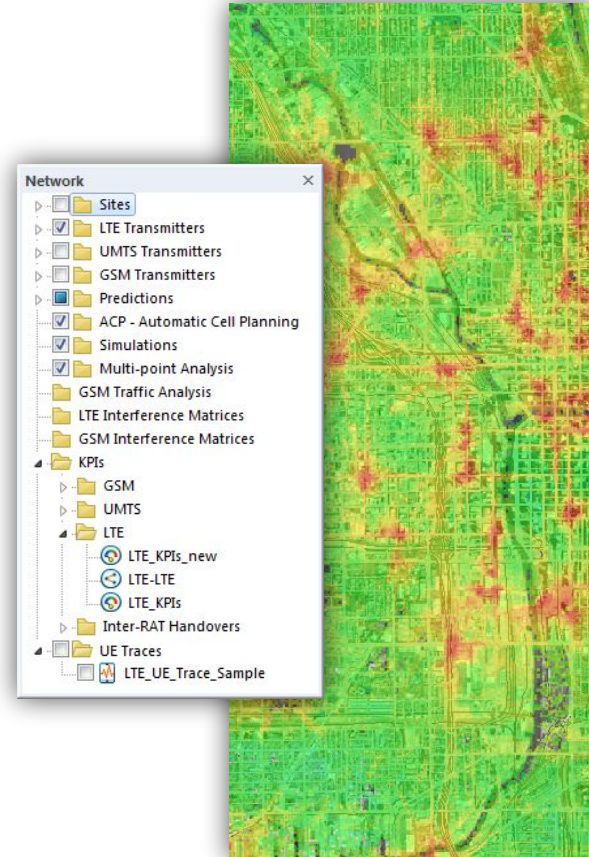
RF technologies: Atoll Advantages over Planet

- **Inter-RAT modelling**

    - Multi-technology services

    - Multi-technology traffic maps

    - Multi-technology point analysis tool

    - Multi-technology Monte-Carlo simulator

- **Advanced technology modelling**

    - LTE CoMP

    - LTE PCI/RS PRACH using UE Traces

    - Carrier Aggregation Groups

    - Massive MIMO

    - 3D Beamforming

- **5G technology modelling with live customer deployments**

- **Inter-system interference**

ACP: Atoll Advantages over Planet

- Multi-technology ACP

  - Simultaneous inter-system optimisation

- Progressive-thresholds

- LPWA dedicated objectives

 - Redundancy objective (server counter)

- NB-IoT ACP
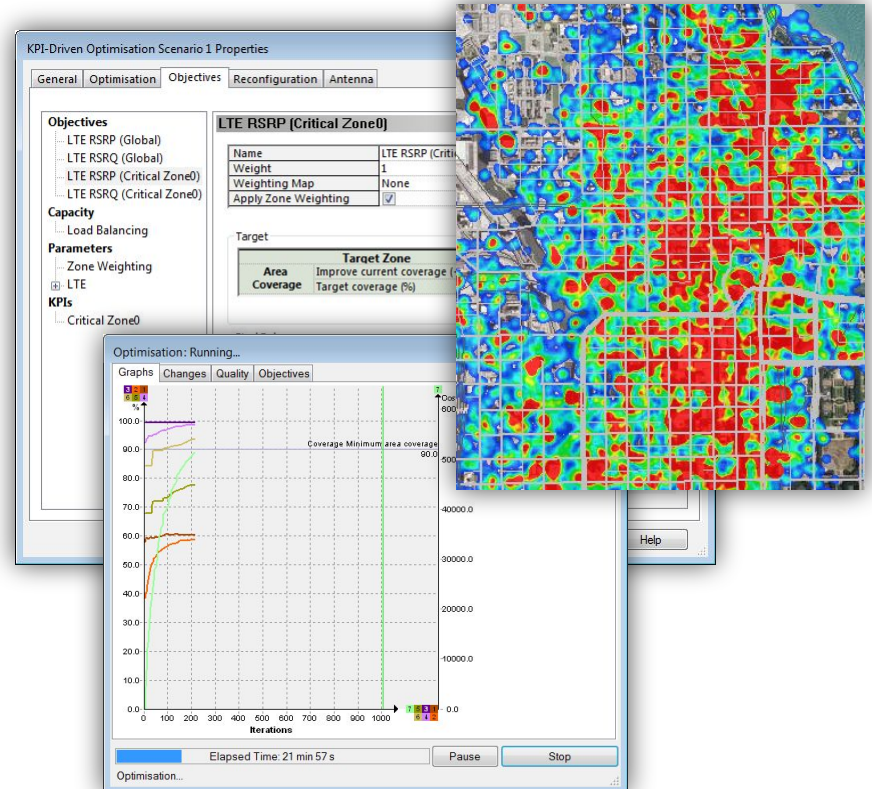
Atoll 5G Capabilities

- Support for 5G frequency bands above & below 6 GHz, and wideband carriers (e.g., 100 MHz)

- mmWave ray-tracing propagation modelling

- Support for 3D beamforming & massive MIMO

- "Last-mile" fixed wireless access deployment

- Automatic small cell selection according to backhaul availability

- Support for cross-band carrier aggregation
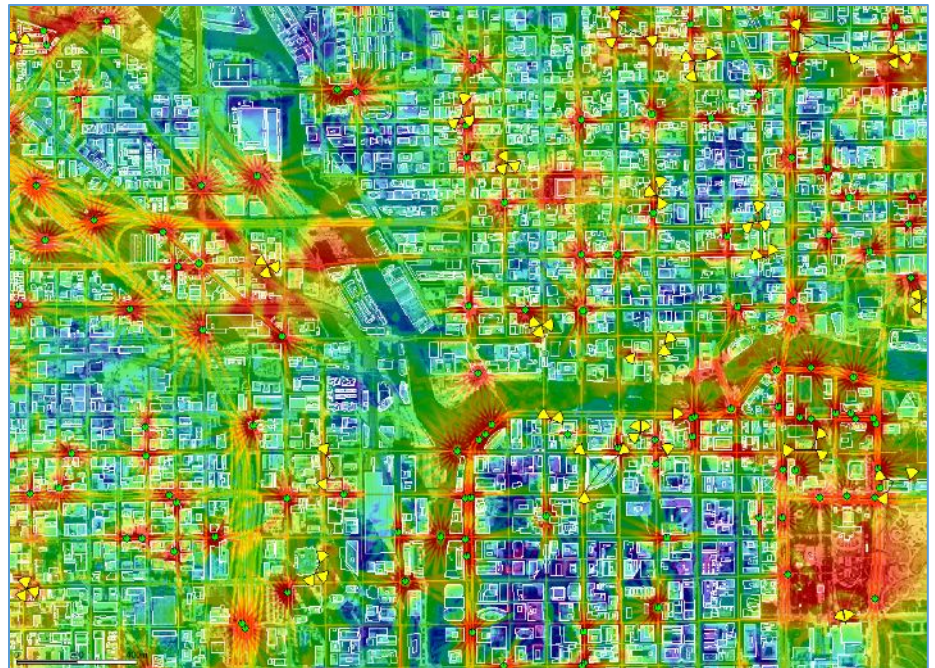
Native Ray-tracing Propagation Model

- Aster ray-tracing advanced propagation model with mmWave capabilities

- Superior calculation speed

- High accuracy

- High performance ray tracing

- Works with 3D raster & vector data without pre-processing

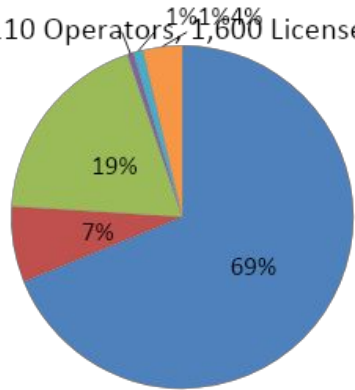- Integrated automatic calibration function
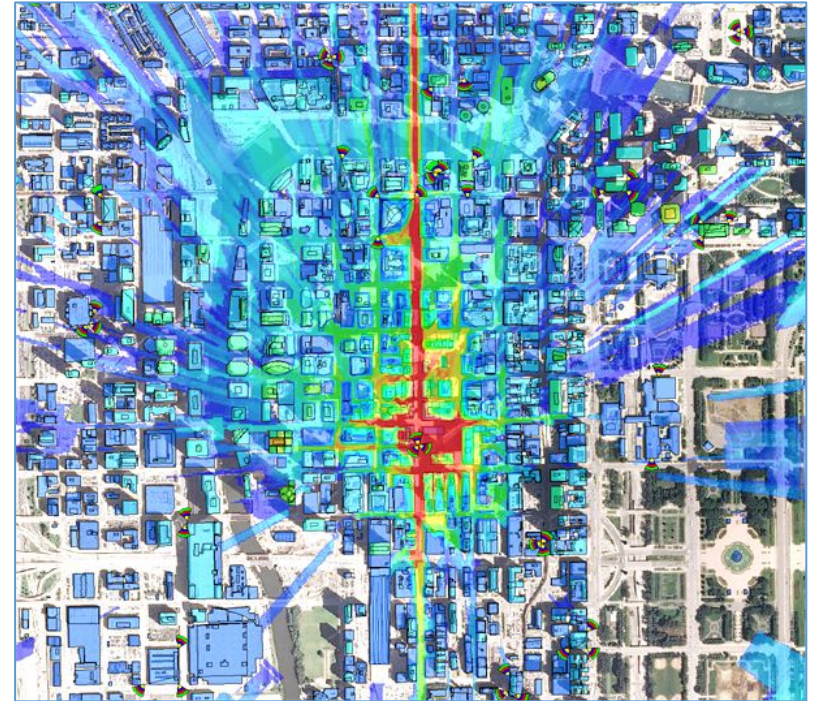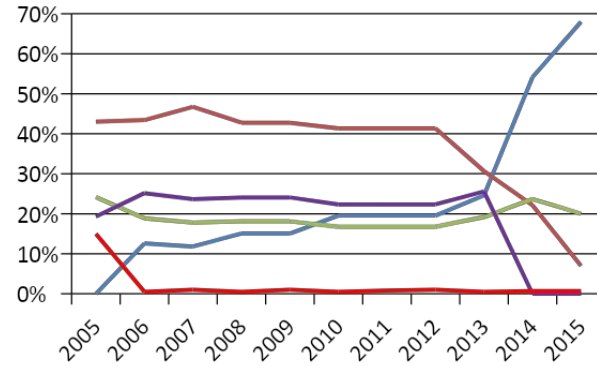
Atoll 3.3 vs Asset 9

- Market share and customer base

- Platform

- Data and User Management

- GIS and GUI

- RF technologies

- Advanced technology features (LTE and 5G)

- Native high performance ray-tracing propagation model
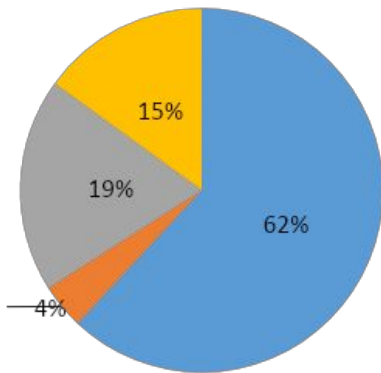
Market Share and Customer Base

USA
(110 Operators, 1,600 Licenses)

1% 1% 4%
19%
7%
69%

- Atoll
- Infovista
- Asset
- Other
- None
- Unknown

EU

15%
19%
62%
4%

- Atoll
- Infovista
- Asset
- Other
- None
- Unknown

Atoll Advantages over Asset

- Platform

  - Connected and disconnected mode vs connected only

  - Multiple database support: Oracle, MS SQL, Asset vs Oracle only

  - Background computation vs interactive mode

- GIS

  - Multi-format vs Planet format only

- Import/Export

  - XML, flat files, Copy/Paste vs XML only

- Installation and upgrading

  - Online and off-line vs Heavy off-line only

- Multi-technology multi-vendor

  - Multi-vendor multi-band capabilities vs uni-vendor
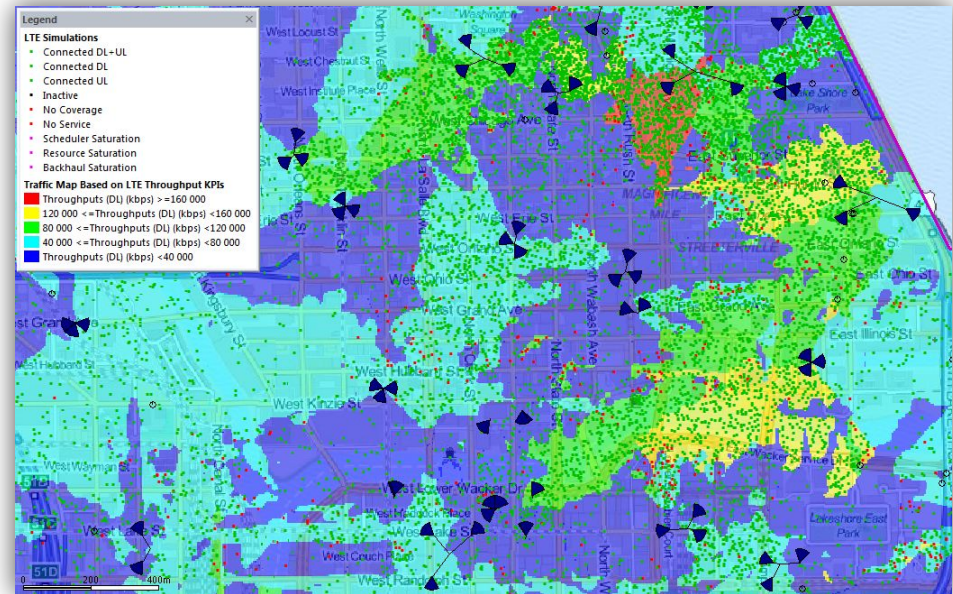
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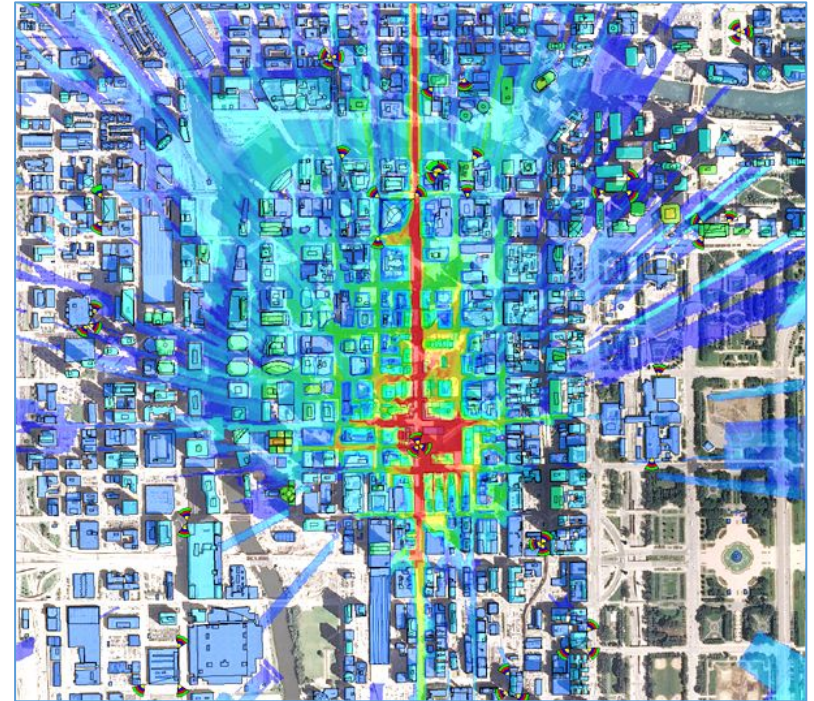
Advanced technology features (LTE and 5G)

- **Inter-RAT modelling**

  - Multi-technology traffic maps

  - Multi-technology point analysis tool

- **Advanced technology modelling**

  - LTE CoMP

  - LTE PCI/RS PRACH using UE Traces

  - Carrier Aggregation Groups

  - 3D Beamforming/ FD-MIMO

- **5G technology modelling with live customer deployments**

- **Inter-system interference**

Conclusions: Main Atoll Advantages over Competitors

- Market share and customer base

- Platform

- GIS and GUI

- Inter-RAT planning and optimisation

- Advanced technology modelling including 5G live network deployments

  - Massive MIMO

  - 3D beamforming

- Native high performance ray-tracing propagation model

Thank you