Fusion

A platform for automated coverage map generation and cross-functional collaboration using wireless network intelligence

Wireless data demand is growing rapidly, creating pressure for wireless operators to deploy larger and more complex networks. Managing these networks efficiently is a vital differentiator for operators.

InfoVista's Fusion's two components, server and web, streamline the connections between internal and external stakeholders by making it easier to produce, integrate, access, analyze and modify the information derived from air-interface simulations, measurements and the related network configuration. In essence, this makes Fusion your unified hub for efficient management of your most valuable asset: your wireless reach.

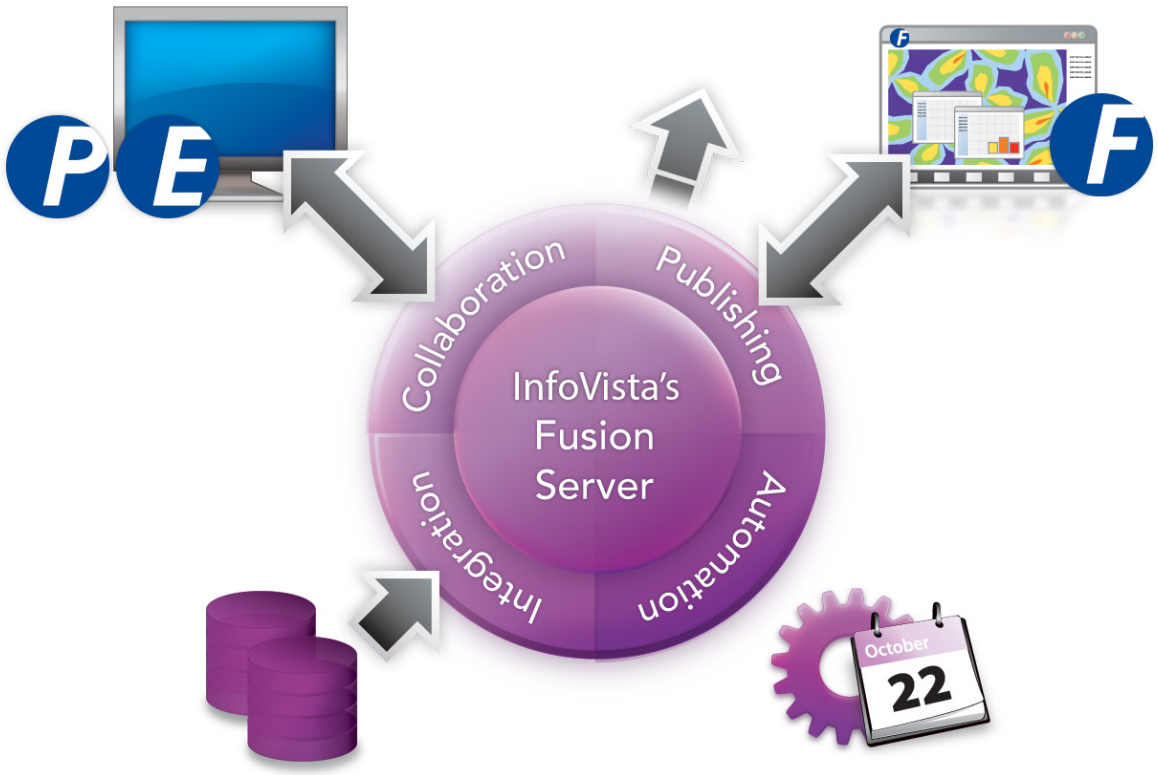

Figure 1. *Fusion Architecture*

InfoVista believes that efficiency is a core component of operational excellence. Operators using InfoVista's Fusion can:

- Manage Network Planning
- Correlate Network Coverage
- Publish Coverage and KPIs
- Automate Tasks

Multi-User Collaboration and Data Integration

The Fusion Server incorporates a data management system to facilitate multi-user project collaboration and provides a centralized database for Planet projects, allowing users to share key data in a controlled fashion. The solution is extremely flexible and fully supports thin-client architecture deployments of Planet based on Citrix® as well as standard client/server architecture. It has been successfully deployed to support more than 500 concurrent users.

Integration of external data sources is done with a flexible Extract-Transform-Load (ETL) engine. It brings data together from several sources into a single view; selected data can be merged and integrated in Fusion Server. The integrated data can be used both in Planet and in the Fusion Web application.

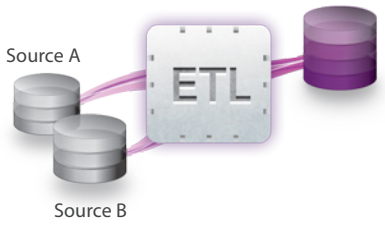

Figure 2. *ETL Engine for Data Integration*

Key Points

- Planet and Ellipse multi-user collaboration
- Deployed for more than 500 concurrent users
- Data integration with ETL engine

Task Automation and Coverage Map Publishing

Fusion Server automates the production of coverage and capacity maps, based on data from the network planning database and from other sources of data such as network performance measurements. It performs not only the underlying calculations of the air interface performance but also automates all the steps required to produce customized coverage and capacity maps.

Fusion supports scenarios, enabling production of several maps, each of them corresponding to a specific view of the network. A typical use case could be the analysis of the network capacity and coverage under different traffic demands. These maps can then be combined together to produce high-level representations of an operator's wireless network capacity and coverage. Ultimately, Fusion streamlines production while at the same time reducing the risk of manual errors typically associated with manual processes.

Coverage maps can be published to Fusion Web for further analysis, or in relevant formats for use in other applications. Nationwide coverage maps can easily be rendered on a regular basis.

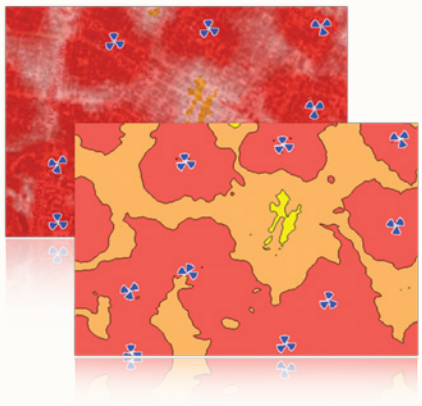

Figure 3 *Select Coverage Maps Rendering*

Key Points

- Automate the production of Coverage Maps
- Render nationwide coverage
- Specify output formats

Fusion Web

Viewing and Analyzing

Fusion Web is a browser-based application that can be used to access network data, coverage maps and statistics produced by Fusion server. It can be deployed across the organization to give all stakeholders immediate access to updated information about the network. With an intuitive interface, users can view and analyze the prepared information and add additional business value by combining maps, statistics, charts and reports into dashboards.

Mapping

A key aspect of a network is its ability to provide coverage where users are. The mapping capabilities of Fusion Web include Bing™ Maps or street maps. The use of tiling technology enables quick browsing of nationwide maps while retaining details when zooming in.

Role-based Access

Not all stakeholders want all or the same information. For that reason, Fusion Web supports role-based access to the data, making it possible to offer a contextually relevant experience when presenting maps, charts or reports..

Figure 4. *Analyze your Network Coverage in Fusion Web*

Key Points

- View coverage data tailored to your requirements
- Create custom charts to add business value
- Create your own reports and share the information

Fusion Use Cases

Rollout Management

Efficient management of rollout projects. Follow the actual network rollout and compare it with the planned rollout based on traffic requirements and population distribution.

Service Assurance

Define analyses, coverage and connection data rate maps and KPI reports to ensure that agreed service levels are met. This information can be shared through a web portal.

Customer Care

Tailored information to Customer Care organizations enables them to quickly and correctly react to support calls.

Strategic Planning

Based on current network coverage and capacity, scenarios with predicted traffic growth can be analyzed to understand potential areas of concern.

Marketing

Regular production of countrywide coverage maps with tailored legends and resolutions to be used in marketing campaigns and on company websites, either by embedding Fusion Web or using the published coverage maps of other applications.

Sales

Network Coverage is an important company asset and represents a major investment. With the ability to provide current and future, as-planned, network coverage and capacity, InfoVista's Fusion enables proactive selling.

Network Sharing and MVNO

Enables generation of consolidated coverage maps for multiple operators sharing network elements. Sharing of coverage information with MVNO for marketing, sales and customer care matters.

Integration Into OSS Ecosystem

Enables OSS solutions to access and leverage network planning, coverage and capacity information, effectively bridging the gap that often exists between the engineering and operational departments.

Fusion Benefits

Proven Data Management

Data management solutions for Planet and Ellipse are already deployed by hundreds of operators.

Flexible Data Integration

The ETL engine makes it easy to connect to several external data sources to consolidate network information.

Unified Way to produce Multi-purpose Data

Coverage and capacity maps as well as reports and charts are tailored to be used in all parts of the organization and between organizations.

Reduces Level of Effort

Fusion significantly reduces the time spent on network coverage and capacity map production, enabling RF engineers to focus on network engineering.

Streamlined End-to-end Automated Processing

Fusion guarantees data quality through repeatable, controlled processes.

High Production Frequency

Coverage information is automatically updated on a regular basis and is therefore a foundation for better understanding and decisions.

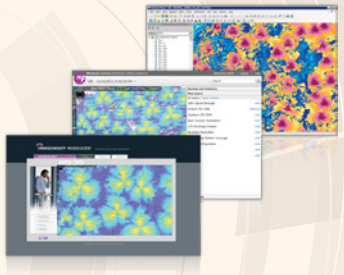

Figure 5. *Fusion Server can Produce Coverage Maps for Many Different Purposes and Applications.*