

SUPPORT INTELLIGENCE

NEXT GENERATION DEVICE HEALTHCARE

Synopsis

The key to effective support is gathering current and relevant information from multiple sources, processing it to determine what is needed to detect and diagnose support issues that are happening, and using it to address those issues. This is intelligence in the sense that governments use the word.

Precedent

Governments are well-versed at extracting important intelligence that they need to act on from a large mass of undifferentiated information. The task of a support organization is similar in many respects, because there is a large amount of information available, and the challenge is to interpret and act on the relevant parts. In the Device HealthCare paradigm, this process is called Support Intelligence.

The key characteristics of Support Intelligence are similar to those of government intelligence.

multiple independent sources of information

- information gathering that can be focused by need
- methods for confirming one data source using another
- availability of more information than is strictly necessary
- analysis guided by existing knowledge of similar situations

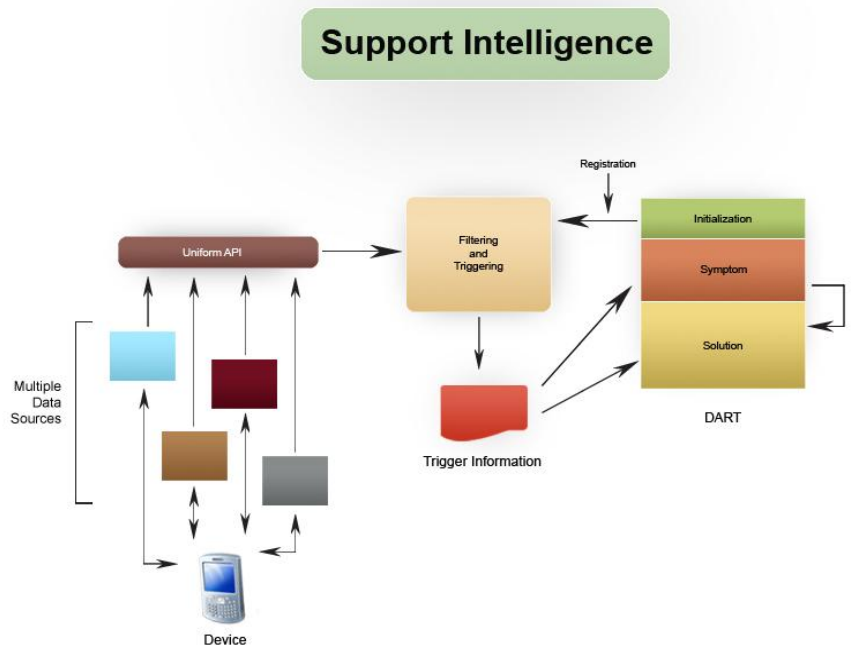
For Support Intelligence, the key point is the existence of a large amount of independent information from multiple sources. The analysis of the information is done by DARTs (Diagnosis, Analysis, and Resolution Tools) as described in Distributed Support. The feedback loop for focusing information gathering is described in Support Multiplication.

Detail

The software architecture of Device HealthCare is designed to handle many information sources and accommodate the addition of new data sources easily. This is done by using a uniform triggering mechanism that runs DARTs when a collection of specified data sources meet certain criteria. During initialization, each DART registers with the engine, specifying which data sources and criteria should trigger it. When a DART is triggered, the engine passes it a data structure indicating the reason it was triggered, along with information associated with each data source at the time of the triggering.

The Device HealthCare engine is constantly adding more sources of information for detection and diagnosis. The list is already impressive and includes:

- system startup / shutdown
- timer system
- printer events (many)
- inter-DART signal
- window creation
- new device
- processor fault
- process creation / termination
- file system change
- engine startup / shutdown
- dialog box creation
- window event (many)



- registry change
- network protocol error (many)
- Windows event log
- network packet (filter condition met)
- network event (many)
- network login failure
- user login
- Windows Update events (many)
- BITS events (many)
- ARP table change
- Windows performance counter (filter condition met)
- taskbar change
- Windows Management Interface data
- SMBIOS data

With this arsenal of extensive, powerful, and flexible methods, a huge array of support issues can be detected and diagnosed.

Benefit

Any support organization will immediately benefit from the vastly increased amount of information available through Support Intelligence. This kind of information is required for understanding details about what is happening on devices, in specific areas such as:

- processes
- system timing
- network resources
- error messages
- executable components
- storage
- configuration
- security
- network operations
- user management
- updates
- software installation / uninstallation
- assets

Uniqueness

Other offerings have their roots in the "monitoring" paradigm. They typically have access to a few different kinds of information. Some examples are:

- Windows Management Interface data
- SMBIOS data
- Windows performance counters
- responses to network queries

This kind of information works well for checking general operational parameters, but is not sufficient for true diagnosis of support issues. For that, the sophistication of true Support Intelligence is required.

The software architecture of other offerings is often geared toward a monitoring and reporting cycle, and may not easily lend itself to adding a large number of data sources. By contrast, Device HealthCare has incorporated this design from its inception.