



# Nirvana!

## An Enlightened Survey Management System

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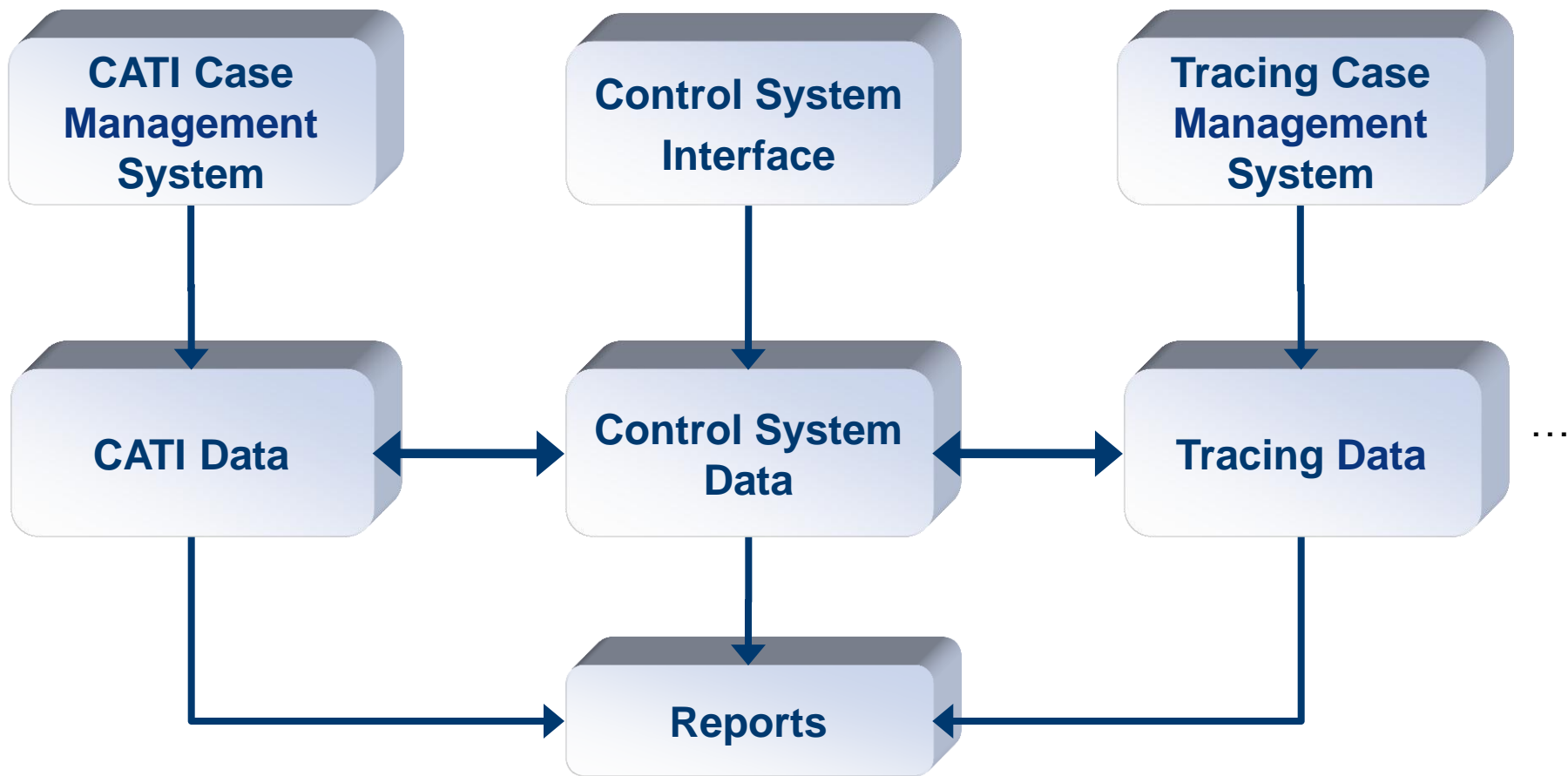
# What is Nirvana?

- An overarching control and case management system that supports RTI's survey data collection activities.
- A centralized database that is the backbone for
    - Telephone (CATI)
    - Tracing
    - Self-Interviewing (Web) using RTI's Hatteras
    - Field (CAPI)
    - General Control System - used for tracking hardcopy documents, bio-specimens, etc.
    - Adaptive Total Design (ATD) and other management reports
  - A common portal, Symphony, for customized access

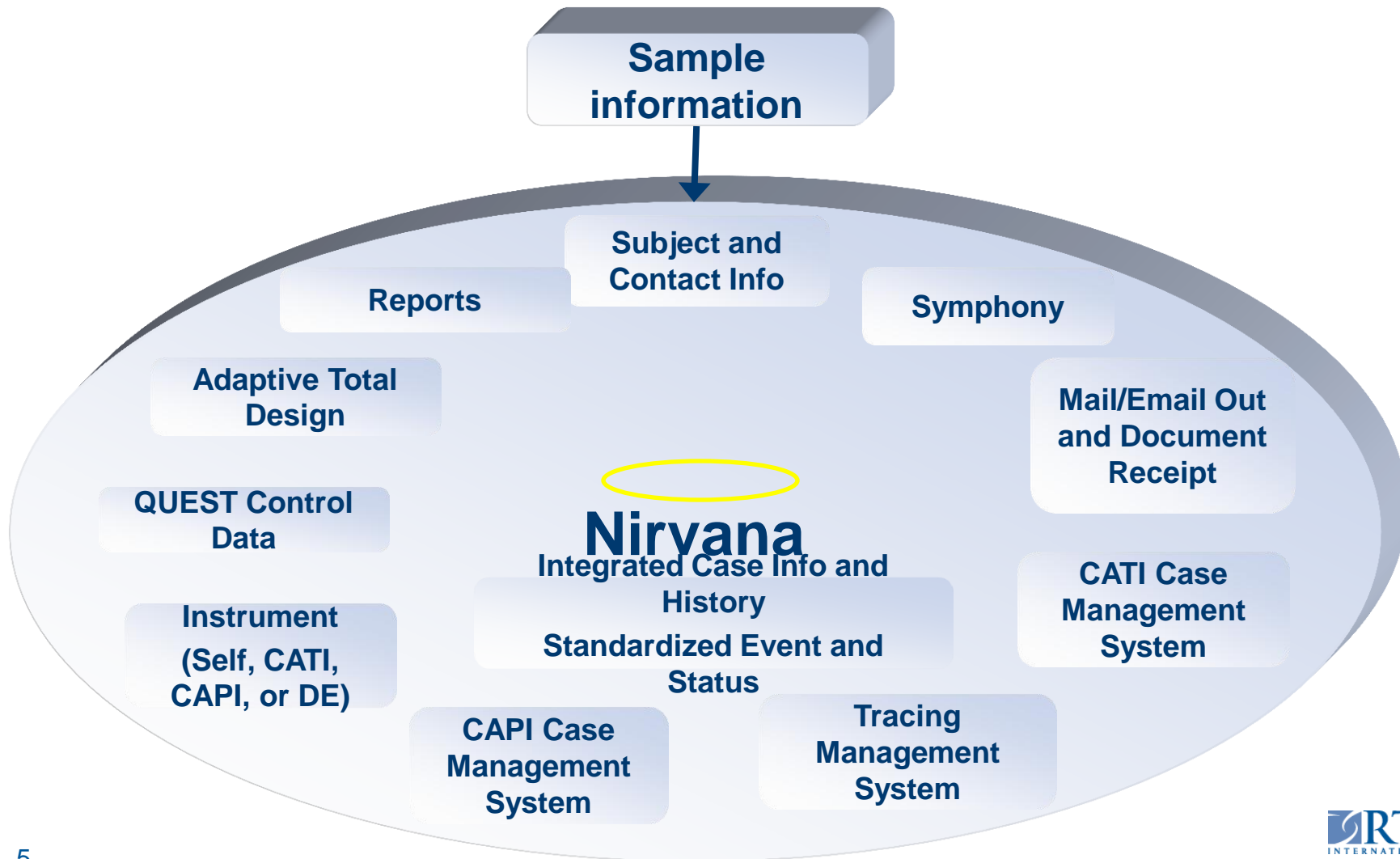
# Background

- General Survey System Initiative (GSSI) was established to
  - Document the pain points experienced by survey managers, developers, programmers, and users
  - Look at the existing systems and processes
  - Evaluate COTS software for data collection
  - Consider process improvements
  - Develop solutions that address the issues and make RTI more efficient
- Several pain points related to separation of systems.
  - E.g., data movement between systems, reporting, agility, staffing

# Key Components of RTI's Systems for Surveys Before Nirvana



# Key Components of RTI's Systems for Surveys Nirvana version



# Architecture – Behind the Scenes

- Centralized Consolidated Database structure
  - Define a case, subject, contact-info in a uniform manner
  - Define a single table for case history (record of calls, record of events) across all modes and all modules
  - Define a standard set of event and status codes across all modules; Implement the concept of “stages” (processes)
  - Regardless of the mode of data collection, each project will have a single database that contain all of the case/sample management information
- An Admin database provides the links to the project specific database

## Architecture – User View

Symphony application portal:

- Dashboard for launching the Nirvana modules
  - Tools to define and administer Nirvana for the project
  - Traditional control system applications like Mailout, Receipt control, etc.
  - Other applications such as Tracing CMS, Sample Loader
  - CaseTools to view case data and status, help desk
- One-click install technology to provide automatic updates of the software
- Enforcement of project specific access based on windows login

# Symphony - Portal

**Symphony v1.6 | Playground | Production**

Home Help Logs

Quit

### Your Studies

|  |              |
|--|--------------|
| <b>(1) Study Number One</b>                              | 999.999.9999 |
| Another Study  |              |
| <b>(999) Playground</b>                                  | 000.000.0000 |
| Provides a safe playground for users to try applications |              |

### Your Applications

Double click to launch... Production

|   |      |
|---|------|
| <b>EmailOut v1.4</b>  | User |
| Allows you to create email merge documents                    |      |
| <b>Nirvana Configuration v1.2</b>                             | User |
| Configures Nirvana  |      |
| <b>HTD</b>  | User |
| Hit The Door  |      |
| <b>CaseTools</b>  | User |
| Provides a means to lookup case information                   |      |
| <b>Batch Tracing</b>  | User |
| Performs Batch tracing operations with stored procs and files |      |
| <b>MailReturn v1.2</b>  | User |
| Provides mailreturn ...                                       |      |



# Project, Stages, Status, and Events

- **Project:** the definition of a study
  - contains one or more stages
- **Stages:** major steps in work flow that need to be tracked
  - always has a single current status that can be reported.
  - statuses from multiple stages can be rolled up into an overall case-status
  - can be simple or complex (lead letter mailout, CATI)
  - can be sequential or concurrent (forms receipt & field DC)
  - Stages are linked together by *triggers*. Triggers are rules that cause a change in the status of a case, either within a stage or in a different stage

# Project, Stages, Status, and Events

- **Status:** current state of a case within a stage
  - derived based on a new event and the prior status
  - can be affected by other flags or counters (e.g. too many calls)
- **Event:** something that happens to a case
  - can be a *system* event or one recorded by a *user*
  - may or may not cause a change in the status

Nirvana defines a **standard** set of events and statuses.

Nirvana offers **template** stages and triggers.

All can be **customized** to suit project needs.

## Mail/Email Out & Doc Receipt

- Traditional control system functions are standardized
- Modules are launched through Symphony and thus access controls are built-in
- Protocol regarding Mailout, etc., are controlled using Stage/Status/Event concept

# CATI-CMS

- RTI's CATI-CMS has been adapted to use the Nirvana data structure
- Event based triggers make the case available for CATI. For example,
  - As soon as new information is available from tracing, the case is automatically available to be worked in CATI
- Initiating the transfer of a case from CATI to CAPI requires only a status code change
- Standard CATI reports are generated directly off the project database

## IFMS / CAPI Case Management System

- RTI's IFMS has been adapted to the Nirvana structure
- Case can be transferred to IFMS through status codes
- Status and data interchange happen on the project database itself
- Standard IFMS reports are generated directly off the project database

# Tracing Management System

- Case is ready for tracing based on triggers from other modules (CATI, CAPI, etc.)
- Tracers can access all of the study information and case history from all modes of data collection
- Outcome based steps help streamline the tracing process
- Standard Tracing reports are generated directly off the project database

## Instrument / Hatteras

- Hatteras – Survey Editor is used to author instruments in
  - Hatteras (web based Survey Engine)
  - Blaise
  - Adobe AIR Mobile for Handhelds (in progress)
- Hatteras Survey Engine administration modes include
  - Web (self-interview)
  - CATI
  - CAPI
  - Data Entry (with key verification)
- Hatteras supports
  - Linear or non-linear data entry
  - CARI

## Quality Evaluation System (QUEST)

- RTI's QUEST is used to:
  - Review CARI files for CATI and CAPI projects in a standard and objective manner
  - Authenticate interviews
  - Provide feedback to interviewers
  - Provide a richer quality control report by combining the review results with other information such as interviewer demographics, item non-response, etc.



## Reports

- Traditional CATI, TOPS, and other reports are available and generated off the project database itself
- Stage specific reports are available
- A few Integrated reports are available but more are being developed as project needs are better understood
- Adaptive Total Design (ATD) Reports have been prototyped and working on standardizing the same

# Benefits

- All interviewing activities are based on and updated in the same database, including case management data
  - All events/calls in a single place regardless of mode
  - All Paradata in the same database
- Comprehensive reports across all modes can be created more easily
- Responsiveness & Efficiency
  - “Moving” cases between Tracing and CATI, CATI and Field, or Field and Tracing will be relatively immediate and in the hands of survey management
  - Ex: hostile refusal from R -> all modes know without delay (relatively speaking)

# Benefits

- **Quality**
  - Easier data management, less reconciliation
  - Can compare across studies that help us improve our processes
    - How many calls are needed on average for this population?
    - Was batch tracing effective for this population?
- **Standardized but customizable software and procedures**
  - Software maintenance costs are reduced
  - Personnel training costs are reduced
  - Customizable by project but within a controlled framework

# Nirvana Core Team

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