Henrik Berlin, ABB/DMRO/PRS, November 10th, 2016

RobotStudio 6.04

News
Robotics lifecycle
The phases of a project

- Sales
- Proposals
- Visualization
- Projects
- Supervision
- Engineering
- Fleet Management
- Operation
- Start-up
- Virtual Commissioning
New robot – IRB 6700 Inverted 2.60m and 2.90m
For MH and SW, LeanID or naked, 210kg – 300kg
New robot - IRB 1200 Foundry Plus
New robot
IRB 1660ID 1.55 m / 4 kg

6 kg variant added already in 6.03.01
Virtual Reality
HTC Vive

- Works with RobotStudio and Station Viewer
- HTC Vive features
  - Motion tracking sensors for location and orientation tracking
  - Hand controls for interaction with the virtual world
- Command extensibility for HTC Vive through RobotStudio API (beta)
  - Customization of available commands in VR environment
Shortcut to change RobotWare options
For Virtual Controllers

- Easy to modify RW options
YuMi Collision Avoidance for Smart Gripper
YuMi
New definition of arm angle and arm configuration data

- New definition of arm angle and configuration data
- Use old definition for existing programs
  - Configurable through Configuration Editor (MOC.CFG)
- Old definition to be made obsolete in future RobotWare versions.
Highlights of RobotStudio 6.04
TCP Trace

- **Feature:** Color TCP trace according to signal of choice
- **Benefit:** Enables analysis and optimization of motion for e.g. path-following applications.
Highlights of RobotStudio 6.04
TCP Trace colored by signal
Highlights of RobotStudio 6.04
TCP Trace with motion events
Data Recovery
Four ways of securing your data
Data recovery, part I
AutoSave of RAPID

1. Edit RAPID

2. In the event of a software failure (RS or VC). Re-open the station.

- Saves un-applied changes in editor
- Saves changes in VC since last restart
- RobotStudio notifies user when auto-saved changes are detected.

3. Review and approve auto-saved changes
Data recovery, part II
AutoSave of stations

1. Business as usual

2. File created (.rsautesave)

3. In the event of a software failure, re-open station. If AutoSave data detected…

4. Original .rsstn renamed to .bak
Data Recovery, part III
Automatic backup of station files

- Previous station file copied and renamed
- Pre-requisite: Solution
Data Recovery, part IV
Automatic backup of virtual controllers

- Virtual controllers of station backed up
- Pre-requisite: Solution
Smart Component Design View
Add signals and properties

Press '+' to add signals or properties
Press drop-down to select signals for exposure
Context menu for connections
Rapid Synchronization
Create local RAPID declarations

1. Create and sync targets
2. Select LOCAL checkbox
3. Voila! Declared as LOCAL in RAPID.

Can only be configured first time targets are synced.
Gfx Statistics
For optimizing graphics performance

Identify part with most impact on gfx performance
Commissioning Shortcut to utility

- Utility folder comes with RobotWare and contains CFG files for various equipment

Both for real and virtual controllers
Comparison tool
For comparison of files and folders

- **Feature:** RAPID-aware file and folder comparison.
- **Benefit:** Identify changes made between two backups.
Delete all logs
Clears the log in RobotStudio and the controller
SafeMove 1st generation

- SafeMove Configurator discontinued
  - Use Visual SafeMove to configure SafeMove 1st gen.
- New icons
  - Same style as SafeMove 2nd gen
SafeMove 2nd generation

General Output

- Functionality of 'External PowerSupply' to allow activation in manual mode without enabling device being depressed.
- Renamed to 'General Output'
- Use option 'Follow enabling device in manual mode' for old behavior of 'External PowerSupply'
Jobs Recap

Features

- Supports large installations
- Integrated in RobotStudio
- Excel based

Benefits

- Efficient robot management

Job = Action + Device List
Jobs

Command-line execution / Scheduled Jobs

- **Feature:** Jobs can be scheduled.
- **Benefit:** Allows for automatic, unattended, execution at user-defined intervals.
Jobs

New Action: Backup Program Modules

- **Feature:** Backup RAPID program modules (.mod). Subset of full backup.

- **Benefit:** Reduces amount of data when identifying changes made to robot program since previous backup.
Jobs

New Action: Compare folders

- **Feature:** Compare folders for all controllers in device list
- **Benefit:** Allows comparison of current and previous backups.
Jobs

New Action: Read Device Information

- **Feature:** Read any information from Device Browser through Jobs. Common properties pre-defined:
  - Fan Speed,
  - Temperature (CPU and main comp)
  - Memory

- **Benefit:** Scan robot population for selected properties as 'sanity-check'

1. Lookup property and copy ID
2. Paste in Action field
3. Run Job and check report
Jobs
Improved Action: Read/Write File or Directory

- **Feature:** Files and Directories can be read from, or, copied to the controllers.

- **Benefit:** Easy collection and distribution of files and directories.
Jobs

Improved Action: Search RAPID data (individual fields)

- **Feature:** Individual record fields can be read.
- **Benefit:** Focus on interesting data. Reduced data transfer.
Jobs
Ease-of-use: Improved UI for replacement strings

- **Feature:** Build name patterns by selecting from list of replacement strings.
- **Benefit:** Increased ease-of-use.
Jobs
Ease-of-use: Open folder location for Excel reports

- **Feature:** Shortcut to report folder location.
- **Benefit:** Easier to find Excel reports.
Jobs

Ease-of-use: Serial number in report

- **Feature:** Serial number added as default column in Excel report.
- **Benefit:** Easy-of-use for service technicians.
Jobs
Multi-action Jobs

- **Feature:** Multiple Actions added to a Job
- **Benefit:** Reduces number of Jobs required. Enables comparison to be made in connection to backup.
32-bit / 64-bit versions

- Default version is now 64-bit, headings changed
  - 64-bit version: ABB RobotStudio 6.04
  - 32-bit version: ABB RobotStudio 6.04 (32-bit)

<table>
<thead>
<tr>
<th>Summary of 32/64-bit support</th>
<th>32-bit</th>
<th>64-bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScreenMaker</td>
<td>✔</td>
<td>✘</td>
</tr>
<tr>
<td>Integrated Vision</td>
<td>✔</td>
<td>✘</td>
</tr>
<tr>
<td>SolidWorks CAD Converter</td>
<td>✘ (2015+)</td>
<td>✔</td>
</tr>
<tr>
<td>EPS Wizard</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Visual SafeMove (1st &amp; 2nd)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Everything else in RobotStudio</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

- 64-bit version and additional RAM is recommended when working with 3D.
- 32-bit version to be discontinued in 6.06 (2017.2)
Power and productivity for a better world™