Operating Systems
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L-08 One Page Summary of ITRON OS:

1.What is ITRON?

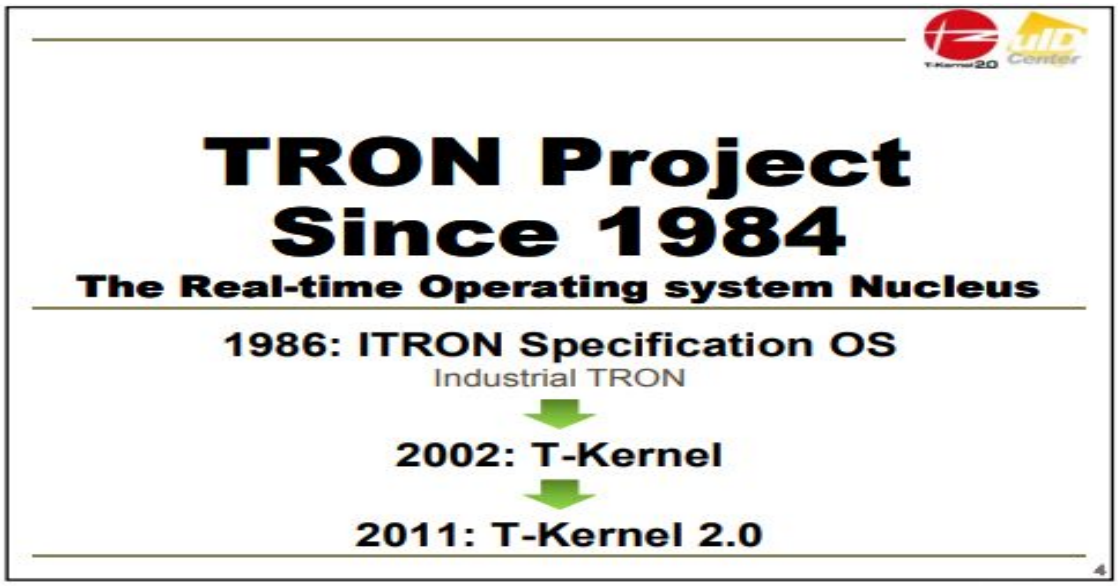
- Subarchectecture of the TRON project.
- Tron (The-Real-Time-Operating-System-Nucleus) Designed by Dr. Sakamura in Tokyo in 1984
- Designed for society's needs. Developers intended to create " highly functional distributed systems in which all system components are connected to a real-time network " Interestingly enough Dr, Sakamura wanted to create an infrastructure similar to the power-grid or modern water systems.

2. What are the latest Developments?

- Things have changed alot since the, Japanese giant Matsushita Introduced us to his BTRON PC, in 1989 which could dual-boot capable of running BTRON specifications and MS-DOS. Threatened U.S. advancement of the computer industry and sanctions crippled the progress of ITRON.

  RTLinux is an example of modern developers utilizing the RTOS capabilities of TRON over Linux. This has lead to a MontaVist Partnership producing T-Linux allowing for Application software.

  Currently According to Dr. Sakamura, the focus on IoT has become a main focus for the company and an easy was to diversify uses of their specifications:



3. Discuss new versions in the works:

- There are currently many Sub-architectures available
    - ITRON is a Japanese product and the open source market has adapted making production versions from RTOS specifications are
        - **eCos**- a C++, C, and Assembly based RTOS produced in 1998, latest versions are 3.0 with a release of 2009. Targeting Embedded systems users are for devices with memory ranging in 100+ Kbs
        - **RTEMS (Real-time Executive for Multiprocessor Systems)-** written in C, RTEMS are popular for space applications. Currently orbiting Mars on NASA's Mars Reconnaissance Orbiter. Development versions releases as late as 2016.

4. Different versions for different industries:

- There are currently many Sub-architectures available
    - ITRON (Industrial TRON): Real-Time Operating System as described above

- JTRON (JAVA TRON): Subarchetecutre to standardize Java Utilization.
- BTRON (Business TRON): Mainly seen in personal use, Workstations ect.
- CTRON(Central and Communications TRON): Mainframe computers.Similar to Unix.
- MTRON(Macro TRON): Allows communication between different TRON components similar to the APIs.
- STRON(Silicon TRON): Implementation in a hardware Kernel.

Resources:

- **Wikipedia**
- **ITRON Website**
- **ITRON FAQ**
- **RTEMS**
- **LinuxInsider**
- **Official research page University of Tokyo**
- **T-Forum Presentation from Dr. Ken Sakamura**